

HAYWARD'S  
BOTANIST'S POCKET BOOK

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*REVISED BY*  
G. C. DRUCE

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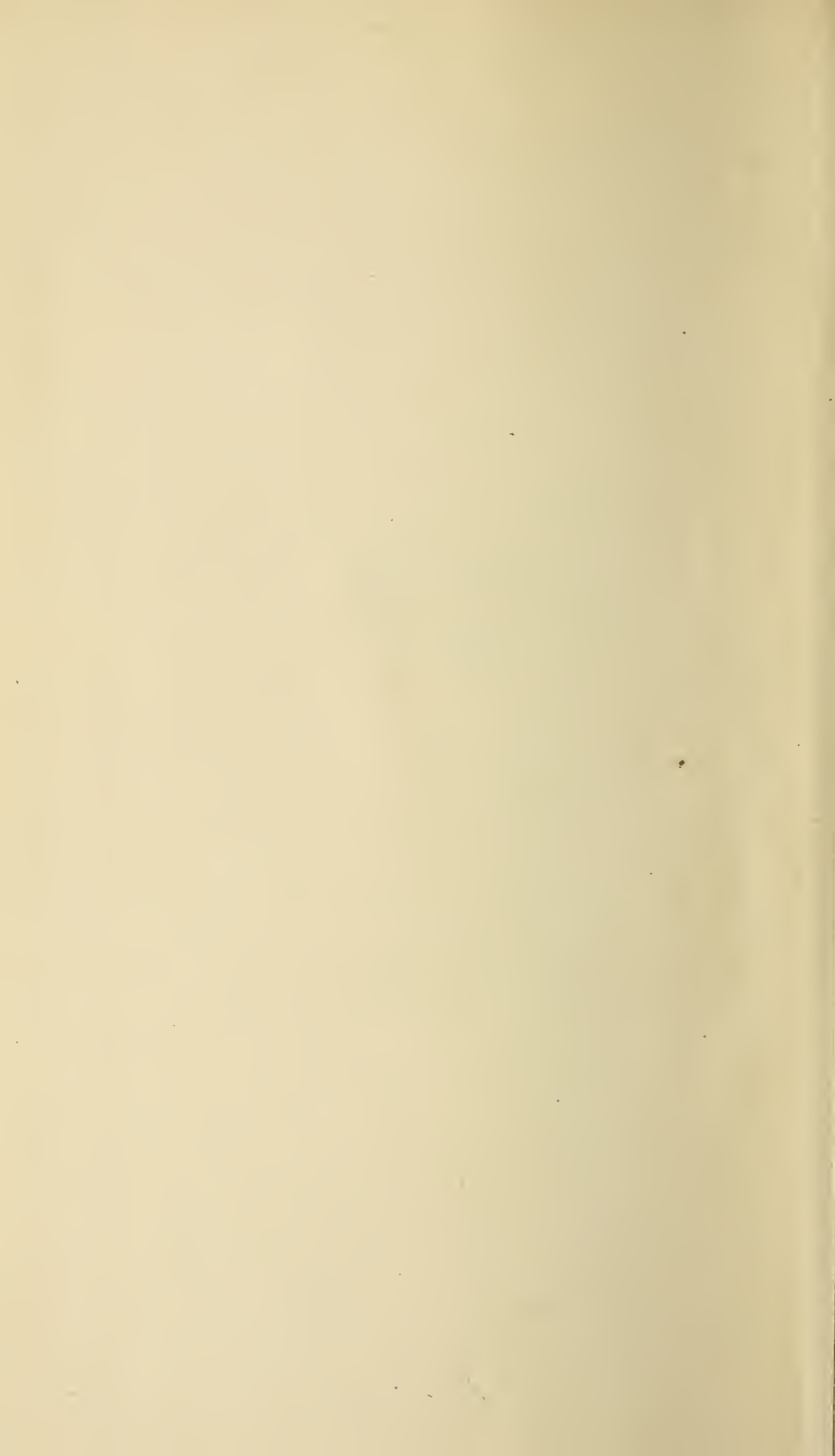


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HAYWARD'S  
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# HAYWARD'S BOTANIST'S POCKET-BOOK

CONTAINING THE CHIEF CHARACTERISTICS OF BRITISH  
PLANTS; WITH BOTANICAL NAME, COMMON NAME,  
SOIL OR SITUATION, COLOUR, GROWTH,  
AND TIME OF FLOWERING OF  
EVERY PLANT, ARRANGED  
UNDER ITS OWN  
ORDER

NINETEENTH EDITION, REVISED BY  
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FIELDING CURATOR IN THE UNIVERSITY OF OXFORD  
HON. SEC. BOTANICAL SOCIETY AND EXCHANGE CLUB OF THE BRITISH ISLES  
HON. FELL. BOT. SOC. EDINB., CORR. MEMB. SOC. BOT. GENÈVE, AND  
BOT. SOC. CZECH.-SLOVAK.  
VICE-PRES. BRIT. ASSOC., AND GILBERT WHITE FELLOWSHIP.

LONDON: G. BELL AND SONS, LTD.

1930

FIRST PUBLISHED, NOVEMBER, 1872.  
REPRINTED, DECEMBER, 1877, 1881, 1883.  
WITH APPENDIX, 1886, 1889, 1892.  
WITH ADDENDA, 1896.  
REPRINTED 1901, 1902, 1904, 1907.  
RE-EDITED 1909, 1914, 1917.  
REPRINTED 1919, 1922.  
REPRINTED AND REVISED, 1926.  
REVISED WITH APPENDIX OF NEW PLANTS, 1930.

## PREFACE TO THE THIRTEENTH EDITION

HAVING been requested to re-edit Hayward's very useful "Botanist's Pocket-Book," I found that the large amount of excellent field-work which has been done in Britain during the last thirty years made it necessary to widen its scope considerably. At the same time, the original plan, where possible, has been retained. The work in this compressed form necessarily cannot include complete descriptions; it is intended merely to enable the botanist in the field to name his specimens approximately, and to refresh the memory of the more advanced worker who may use it. Almost all the important species and varieties, and the more completely established alien species mentioned in Syme's Edition of "English Botany," in my "List of British Plants," and in the 10th Edition of the "London Catalogue," will be found included.

The more important synonyms are also given. The names used are in accordance with the "Vienna Actes" of nomenclature, with which I am not in complete agreement; that is, I admit no exceptions to the law of priority which was established by the Paris Congress as the key-note of Botanical nomenclature. Therefore, in the comparatively few instances where the "Vienna Actes" conserve a more recent name in defiance of the principle of priority, the older and more correct generic synonym is given in the same type, but the specific names (which may be found in my "List of British Plants") for the sake of space are usually omitted.

The arrangement of the Artificial Keys to the Natural Orders and Genera which was a popular feature in the earlier editions has not been essentially altered. To make it coincide with modern Botanical terminology would mean re-writing and re-modelling; therefore much remains which may be open to criticism; nor probably has the attempt to put new



wine into an old bottle been very successful. The student, however, it is to be hoped, will gain, not lose, by such alterations as have been made.

No description is attempted of the numerous species of *Hieracium*, *Rubus*, *Euphrasia*, or of many hybrid *Salices*; etc.; for these the "Handbook of British Rubi," by Rev. W. Moyle Rogers; the "British Hieracia," by the Rev. W. R. Linton; the "Monograph of the Euphrasia," by Dr. R. von Wettstein, or its English abstract by Mr. F. Townsend, should be consulted. Kükenthal's important *Cyperaceæ - Caricoideæ*, in Engler's "Das Pflanzenreich," gives much additional matter on the Sedges and their hybrids. In the General Index reference will be found to the vol. and page of Sowerby's "English Botany," 3rd Edition (edited by Dr. Syme).

Considerable alteration has been made in the "habitat" and "distribution," and this has been the result of personal observation of nearly all the forms mentioned in the work.

The use of this book will, it is hoped, increase the love of field-botany in Britain. There is still an immense amount of work to be done not only in studying the more definite species, but in careful examination and culture of the more critical forms.

I have to thank my friend the Rev. H. J. Riddelsdell for kind assistance in examining the proof-sheets, and also Mr. H. Baker, of the Botanical Library at Oxford, for help. It is hardly possible that the book should be free from errors, but I sincerely hope that any mistakes which remain will not be important.

In case of doubtful determination I shall always be glad to examine the specimen (return postage must be prepaid), and any correction or addition to the "Handbook" will at all times be valued.

G. CLARIDGE DRUCE.

YARDLEY LODGE,  
OXFORD,  
August, 1909.



## PREFACE TO FOURTEENTH EDITION

IN issuing this, the Fourteenth Edition, may I thank my numerous correspondents for the valuable suggestions many of which have been adopted here?

My readers would probably find it useful to belong to the "Botanical Exchange Club and Society of the British Isles," of which I am Secretary, as the Annual Reports give the chief additions to British Botany made in each year. The more important of these which have been added during the past four years are now included in this "Handbook."

"The Monograph of the British Violets," by Mrs. Gregory, will be found valuable for the study of this critical group. "The Genus *Fumaria* in Britain," by Mr. H. W. Pugsley; "The British Roses" and "A List of British Roses," by Major A. H. Wolley Dod; "British Trees," by Elwes and Henry; "The British Willows," by the Rev. E. F. Linton; and "The British Pansies," by Dr. E. Drabble, are also recommended to the student, as several critical plants, for which space has not been found here, are there described.

I always gladly welcome any corrections to this work, or any additional records, or notes on points of interest.

G. CLARIDGE DRUCE.

YARDLY LODGE,  
OXFORD,

*August, 1913.*

## PREFACE TO FIFTEENTH EDITION

I AM indebted to several correspondents for valued notes. Notwithstanding the war, a number of additions to the British flora have been made since the last edition, the most important of which have been included in the supplements.

The work on the British Pondweeds, begun by the late Alfred Fryer, is now completed, and should be studied by those interested in that somewhat difficult genus. Our lake vegetation has not as yet received the careful attention it deserves.

I am always glad to assist in identifying specimens, but postage must be paid for reply.

G. CLARIDGE DRUCE.

YARDLEY LODGE,  
OXFORD,  
*May, 1917.*

## PREFACE TO NINETEENTH EDITION

THE additions which have been made to our Flora since 1926 are put in a separate appendix (No. 2). It contains several new species to Britain. Some references to current botanical literature are put in to assist readers who wish for further particulars. Many emendations are made in the text of the Pocket Book. The Reports of the Botanical Society and Exchange Club of the British Isles, of which I am Secretary, have several monographs of the more critical species.

It may be well to add that the period of the flowering time quoted is for the average time of blossoming.

The colours cited, too, are for normal plants. Albinos are frequent and are not cited.

Any notes or emendations are always valued. I am very grateful for those that have been supplied.

G. CLARIDGE DRUCE.

THE ATHENÆUM,  
LONDON,  
*Dec. 20, 1929.*

## EXPLANATION OF ABBREVIATIONS

V.R following the habitat of a plant denotes that it is very rare.

R.        "        "        "        "        rare.

L.        "        "        "        "        local.

When an asterisk \* is prefixed to a plant it denotes that it is not a native.

× means a hybrid.

∞        "        indefinite.

o        "        none.

## LEFT-HAND PAGE.

Third Column—*Soil or Situation.*

|                           |                         |                              |                             |
|---------------------------|-------------------------|------------------------------|-----------------------------|
| Alp.— <i>Alpine.</i>      | fie.— <i>fields.</i>    | moi.— <i>moist.</i>          | S. or Sc.— <i>Scotland.</i> |
| bar.— <i>barren.</i>      | grav.— <i>gravelly.</i> | mt.— <i>mountain.</i>        | sh.— <i>shores.</i>         |
| bks.— <i>banks.</i>       | hea.— <i>heaths.</i>    | mud.— <i>muddy.</i>          | sha.— <i>shady.</i>         |
| bus.— <i>bushy.</i>       | hed.— <i>hedges.</i>    | past.— <i>pastures.</i>      | st.— <i>stony.</i>          |
| calc.— <i>calcareous.</i> | hil.— <i>{ hills.</i>   | plants. or } <i>planta-</i>  | thick.— <i>thickets.</i>    |
| ch.— <i>chalky.</i>       | <i>{ hilly.</i>         | plantat.—} <i>tions.</i>     | Tr.— <i>trees.</i>          |
| cl.— <i>cliffs.</i>       | I.— <i>Ireland.</i>     | pl.— <i>places.</i>          | V. R.— <i>Very Rare.</i>    |
| co.— <i>coast.</i>        | Ir.— <i>Irish.</i>      | R.— <i>Rare.</i>             | w. or { <i>waste</i>        |
| cop.— <i>copses.</i>      | L.— <i>Local.</i>       | riv.— <i>rivers.</i>         | wa. pl. } <i>places.</i>    |
| dit.— <i>ditches.</i>     | lak.— <i>lakes.</i>     | ro. or roc.— <i>{ rocks.</i> | wa.— <i>waste.</i>          |
| dp.— <i>damp.</i>         | mar.— <i>marshes.</i>   | <i>{ ro. ky.</i>             | W.— <i>West or Wales.</i>   |
| E. or Eng. { <i>Eng-</i>  | mea.— <i>meadows.</i>   | san.— <i>sandy.</i>          | wo.— <i>woods.</i>          |
| <i>land.</i>              |                         |                              |                             |

Fourth Column—*Colour.*

|                      |                          |                           |                     |
|----------------------|--------------------------|---------------------------|---------------------|
| B.— <i>blue.</i>     | G. or Gr.— <i>green.</i> | R.— <i>red.</i>           | Vi.— <i>violet.</i> |
| Br.— <i>brown.</i>   | Li.— <i>lilac.</i>       | Ro.— <i>rose.</i>         | W.— <i>white.</i>   |
| Cm.— <i>cream.</i>   | O.— <i>orange.</i>       | Sc.— <i>scarlet.</i>      | Y.— <i>yellow.</i>  |
| Cr.— <i>crimson.</i> | Pk.— <i>pink.</i>        | Var.— <i>various col-</i> | d.— <i>dark.</i>    |
| Fl.— <i>flesh.</i>   | Pu.— <i>purple.</i>      | oured or variegated.      | p.— <i>pale.</i>    |

Small letters preceding a capital denote that the predominating colour of the flower is that denoted by the capital, tinged, striped, etc., with the colour designated by the small letter; as—pk W. means pinkish white; gr Y. means greenish yellow, etc.

Fifth Column—*Growth.*

|                               |                     |
|-------------------------------|---------------------|
| cl. or cli.— <i>climbing.</i> | ft.— <i>feet.</i>   |
| cr.— <i>creeping.</i>         | in.— <i>inches.</i> |
| flo.— <i>floating.</i>        |                     |

Where a height is given to a prostrate plant, it refers to the average length of its stem.

Sixth Column—*Duration.*

|                       |                    |
|-----------------------|--------------------|
| A.— <i>annual.</i>    | Sh.— <i>shrub.</i> |
| B.— <i>biennial.</i>  | T.— <i>tree.</i>   |
| P.— <i>perennial.</i> |                    |

*Time of flowering.*

1.—Jan. = *January.*

2.—Feb. = *February, etc.*



## RIGHT-HAND PAGE.

|                                 |                               |                              |                              |
|---------------------------------|-------------------------------|------------------------------|------------------------------|
| abt.— <i>about</i> .            | delt.— <i>deltoid</i> .       | lat.— <i>lateral</i> .       | rudim.— <i>rudimen-</i>      |
| ac.— <i>acute</i> .             | dent.— <i>dentate</i> .       | lfts.— <i>leaflets</i> .     | <i>tary</i> .                |
| ach.— <i>achene</i> .           | dentic.— <i>denticu-</i>      | lge.— <i>large</i> .         | runc.— <i>runcinate</i> .    |
| acum.— <i>acuminate</i> .       | <i>late</i> .                 | lin.— <i>linear</i> .        | sagit.— <i>sagittate</i> .   |
| adpr.— <i>adpressed</i> .       | dichot.— <i>dichoto-</i>      | loc.— <i>loculus</i> .       | scab.— <i>scabrous</i> .     |
| aer.— <i>aerial</i> .           | <i>mous</i> .                 | lr.— <i>lower</i> .          | seg.— <i>segment</i> .       |
| aggre.— <i>aggregate</i> .      | diff.— <i>diffuse</i> .       | lyr.— <i>lyrate</i> .        | sep.— <i>sepal</i> .         |
| alt.— <i>alternative</i> .      | digit.— <i>digitate</i> .     | marg.— <i>margins</i> .      | serr.— <i>serrate</i> .      |
| amplex.— <i>amplexi-</i>        | dist.— <i>distant</i> .       | memb.— <i>membra-</i>        | sess.— <i>sessile</i> .      |
| <i>caul</i> .                   | divar.— <i>divaricate</i> .   | <i>nous</i> .                | silic.— <i>silicula</i> .    |
| ang.— <i>angular</i> .          | ell. or ellip.— <i>ellip-</i> | mucro.— <i>mucronate</i> .   | siliq.— <i>siliquea</i> .    |
| ann.— <i>annual</i> .           | <i>tical</i> .                | o.— <i>none</i> .            | silv.— <i>silvery</i> .      |
| anth.— <i>anther</i> .          | elong.— <i>elongate</i> .     | ∞.— <i>indefinite</i> .      | simp.— <i>simple</i> .       |
| apo.— <i>apocarpous</i> .       | emarg.— <i>emargi-</i>        | obt.— <i>obtuse</i> .        | sinu.— <i>sinuate</i> .      |
| apic.— <i>apiculate</i> .       | <i>nate</i> .                 | opp.— <i>opposite</i> .      | sm.— <i>small</i> .          |
| approx.— <i>approxi-</i>        | ensi.— <i>ensiform</i> .      | orb.— <i>orbicular</i> .     | sol.— <i>solitary</i> .      |
| <i>mate</i> .                   | ent.— <i>entire</i> .         | ov.— <i>oval</i> .           | sp.— <i>species, or</i>      |
| arc.— <i>arcuate</i> .          | falc.— <i>falcate</i> .       | paln.— <i>palmate</i> .      | <i>spotted</i> .             |
| arist.— <i>aristate</i> .       | fert.— <i>fertile</i> .       | pan.— <i>panicle</i> .       | spath.— <i>spathulate</i> .  |
| asc.— <i>ascending</i> .        | fibr.— <i>fibrous</i> .       | pariet.— <i>parietal</i> .   | spher.— <i>spherical</i> .   |
| atten.— <i>attenuate</i> .      | fila.— <i>filament</i> .      | part.— <i>partite</i> .      | spic.— <i>spicate</i> .      |
| aur.— <i>auricle</i> .          | filiform.— <i>filiform</i> .  | pect.— <i>pectinate</i> .    | spike.— <i>spikelet</i> .    |
| axill.— <i>axillary</i> .       | Fl., fls.— <i>{ flower.</i>   | pedi.— <i>pedicel</i> .      | spin.— <i>spinulose</i> .    |
| bar.— <i>barren</i> .           | <i>{ flowers.</i>             | ped. or pedunc.—             | spr. or spread.—             |
| bipinn.— <i>bipinnate</i> .     | fld.— <i>flowered</i> .       | <i>peduncle</i> .            | <i>spreading</i> .           |
| br.— <i>branches</i> .          | flex.— <i>flexuous</i> .      | pelt.— <i>peltate</i> .      | st.— <i>stem, or stock</i> . |
| c.— <i>common</i> .             | flo.— <i>floating</i> .       | pend.— <i>pendulous</i> .    | sta.— <i>stamen</i> .        |
| cal.— <i>calyx</i> .            | foll.— <i>follicle</i> .      | per.— <i>perennial</i> .     | stig.— <i>stigma</i> .       |
| campan.— <i>campanu-</i>        | fr.— <i>fruit</i> .           | perfol.— <i>perfoliate</i> . | stip.— <i>{ stipule.</i>     |
| <i>late</i> .                   | fro.— <i>frond</i> .          | peri.— <i>perianth</i> .     | <i>{ stipuled.</i>           |
| capill.— <i>capillary</i> .     | fusi.— <i>fusiform</i> .      | persis.— <i>persistent</i> . | subent.— <i>subentire</i> .  |
| capit.— <i>capitate</i> .       | gl. or glu.— <i>glume</i> .   | pet.— <i>petal</i> .         | subu.— <i>subulate</i> .     |
| caps.— <i>capsule</i> .         | glab.— <i>glabrous</i> .      | peti.— <i>petiole</i> .      | succ.— <i>succulent</i> .    |
| carp.— <i>carpel</i> .          | gland.— <i>glandular</i> .    | pinn.— <i>pinnate</i> .      | syn.— <i>syncarpous</i> .    |
| catk.— <i>catkin</i> .          | glauc.— <i>glaucous</i> .     | pinnfid.— <i>pinna-</i>      | tend.— <i>{ tendril.</i>     |
| cil. or cili.— <i>ciliate</i> . | glob.— <i>globose</i> .       | <i>tifid</i> .               | <i>{ tendrilled.</i>         |
| cl. or cli.— <i>climbing</i> .  | hast.— <i>hastate</i> .       | plac.— <i>placenta</i> .     | term.— <i>terminal</i> .     |
| comp.— <i>compressed</i> .      | hemis.— <i>hemispheri-</i>    | proc. or procumb.—           | tern.— <i>ternate</i> .      |
| con. } — <i>conical</i> .       | <i>cal</i> .                  | <i>procumbent</i> .          | tetrag.— <i>tetragonal</i> . |
| coni. } — <i>conical</i> .      | herb.— <i>herbaceous</i> .    | prof.— <i>profile</i> .      | triang.— <i>trian-</i>       |
| conn.— <i>connate</i> .         | horiz.— <i>horizontal</i> .   | prom.— <i>prominent</i> .    | <i>gular</i> .               |
| contig.— <i>contiguous</i> .    | imbric.— <i>imbricate</i> .   | prost.— <i>prostrate</i> .   | trigon.— <i>trigonous</i> .  |
| contin.— <i>continuous</i> .    | indef.— <i>indefinite</i> .   | pubesc.— <i>pubescent</i> .  | trique.— <i>trique-</i>      |
| cor.— <i>corolla</i> .          | indehisc.— <i>inde-</i>       | pyram.— <i>pyramidal</i> .   | <i>trous</i> .               |
| cord.— <i>cordate</i> .         | <i>hiscent</i> .              | rac.— <i>{ raceme.</i>       | trunc.— <i>truncate</i> .    |
| coria.— <i>coriaceous</i> .     | infl.— <i>inflated</i> .      | <i>{ racemose.</i>           | tub.— <i>tuberos</i> .       |
| corym.— <i>{ corymb.</i>        | inflor.— <i>inflor-</i>       | radi.— <i>radical</i> .      | tuberc.— <i>tubercu-</i>     |
| <i>corym-</i>                   | <i>escence</i> .              | recep.— <i>receptacle</i> .  | <i>late</i> .                |
| <i>bose</i> .                   | inflex.— <i>inflexed</i> .    | reflex.— <i>reflexed</i> .   | turb.— <i>turbinat</i> .     |
| cr.— <i>creeping</i> .          | interr.— <i>inter-</i>        | reg.— <i>regular</i> .       | umbell.— <i>umbellate</i> .  |
| cun.— <i>cuneate</i> .          | <i>rupted</i> .               | reni.— <i>reniform</i> .     | unilat.— <i>unilateral</i> . |
| cuspid.— <i>cuspidate</i> .     | invol.— <i>involute</i> .     | retic.— <i>reticulate</i> .  | upp.— <i>upper</i> .         |
| cylind.— <i>cylindrical</i> .   | irreg.— <i>irregular</i> .    | revol.— <i>revolute</i> .    | urc.— <i>urceolate</i> .     |
| decid.— <i>deciduous</i> .      | L., l, ls.— <i>{ leaf.</i>    | rhomb.— <i>rhomboid</i> .    | vertic.— <i>verticillate</i> |
| decumb.— <i>decum-</i>          | <i>{ leaves.</i>              | rostr.— <i>rostrate</i> .    | yell.— <i>yellow</i> .       |
| <i>bent</i> .                   | lacin.— <i>laciniate</i> .    | rot.— <i>rotund</i> .        |                              |
| decurr.— <i>decurrent</i> .     | lanc.— <i>lanceolate</i> .    | rt.— <i>root</i> .           |                              |



## SYNOPSIS OF THE NATURAL ORDERS \*

### GROUP I.

**ANGIOSPERMS**, seed-bearing plants—Ovules borne in closed carpels (the ovary)—Flowers generally having a well-marked perianth.

#### Class I.—Dicotyledons.

Floral leaves generally in fours or fives—Foliage leaves net-veined—Embryo with two cotyledons.

SUB-CLASS (1)—POLYPETALÆ—*Perianth of calyx and corolla, petals free.*

SERIES \*. THALAMIFLORÆ—*Flowers hypogynous.*

1. RANUNCULACEÆ—Buttercups, etc.

Fl. reg. (irreg. in *Delphinium*, etc.)—Sep. often petaloid—Pet. often 0 (*Caltha*, etc.)—Sta. indef.—Carpels usually many, apocarpous—Fr. an agg. of ach. or foll.—In *Actæa* a berry.

*Herbs with alt. exstip. ls. (a woody climber with opp. ls. in Clematis) (pp. 1-9).*

2. BERBERIDACEÆ—Barberry and Barrenwort.

Fl. reg.—Sep. 4-6—Pet. 4-6—Sta. 4-6—Anth. opening by valves—Carpel 1—Fr. a berry or dry.

*A shrub with 3-partite leaf spines and pend. rac. of yell. fls. (Berberis), or a small undershrub with biternate ls. and red fls. (p. 9).*

3. NYMPHÆACEÆ—White and yellow Water-lily.

Fl. reg.—Sep. 4-5—Pet. and sta. indef.—Ovary syn., 10-20 loc.—Ovules numerous. *Water plants with large floating ls. (p. 9).*

4. PAPAVERACEÆ—Poppies, etc.

Fl. reg.—Sep. 2, caducous—Pet. 4—Sta. indef.—Ovary syn., 1 loc.—Ovules num. on projecting parietal placentæ—Stig. sess.—Fr. a caps.

*Herbs with milky juice—Ls. alt., exstip. (p. 10).*

5. FUMARIACEÆ—Fumitory, etc.

Fl. irreg.—Sep. 2, caducous—Pet. 4—Sta. 2, each tripartite—Ovary syn.—Ovules on 2 parietal placentæ or 1 basal ovule (by suppression)—Fr. a caps. or nut.

*Weak glab. or glauc. herbs with alt. divided ls. (pp. 10-12).*

6. CRUCIFERÆ—Wallflower, Cabbage, etc.

Fl. reg. (irreg. in *Iberis*)—Sep. 4—Pet. 4, cruciate—Sta. 6 (4 long, 2 short) or 4—Ovary syn. of 2 carp., loculus divided by a septum connecting 2 parietal placentæ—Fr. a siliq. or silic. (indehisc. in a few genera).

*Herbs with alt. exstip. ls.—Fl. in ebracteate rac. (pp. 12-23).*

7. RESEDACEÆ—Mignonette.

Fl. irreg.—Sep. 4-8—Pet. 4-8, deeply cleft—Sta. indef.—Ovary syn., 1 loc.—Ovules many on 3-6 parietal placentæ—Fr. a caps. (p. 22).

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\* See EXPLANATORY NOTES on p. xix.

## 8. CISTACEÆ—Rock-rose.

Fl. reg.—Sep. 5, 2 outer smaller—Pet. 5, convolute, fugacious—Sta. indef.—Ovary syn. 3 carp. 1 loc.—Ovules on 3 pariet. plac.—Style simp.—Stig. 3—Fr. 3-valved caps.  
*Herbs or undershrubs with opp. ent. ls. and yell. or white fls.* (p. 24).

## 9. VIOLACEÆ—Violet.

Fl. irreg.—Sep., pet. and sta. 5, lower pet. spurred—Ovary syn., 3 carp., 1 loc.—Ovules many on 3 pariet. plac.—Fr. a 3-valved caps.  
*Small herbs with alt. stip. ls. and axill. stalked fls.* (pp. 24–26).

## 10. POLYGALACEÆ—Milkwort.

Fl. irreg.—Sep. 5, inner 2 larger, petaloid—Pet. usually 3, joined to stam. tube—Sta. usually 8, united below into an open tube—Ovary syn., 2 carp., 2 loc., 1 ovule in each on an axile plac.—Style 1—Fr. a compressed caps.

*Herbs with alt., exstip., simp. ls.—Inflorescence a rac.* (pp. 26–28).

## 11. FRANKENIACEÆ—Sea Heath.

Fl. reg.—Cal. tube persist. of 4–6 sep.—Pet. and sta. 4–6—Ovary syn., 2–5 carp., 1 loc.—Plac. pariet.—Style 1.

*A branched procumb. herb, with sm. opp. exstip. ls. and sm. axill. red fls.—Salt Marshes* (p. 28).

## 12. CARYOPHYLLACEÆ—Catchfly, Campion, etc.

Fl. reg.—Sep. and pet. 4–5—Sta. 8–10—Ovary syn., 1 loc.—Ovules on a central plac.—Styles 2–5—Fr. a cap., opening by apical teeth.

*Herbs with swollen nodes—Ls. opp. ent.—Inflorescence a dichasium* (pp. 28–36).

## 13. PORTULACACEÆ.

Fl. reg.—Sep. 2—Pet. 5, free or united at base—Sta. 3–5—Ovary syn., 1 loc.—Ovules 3, on a central basal placenta—Styles 3—Fr. 3-valved caps.

*Ann.—Herbs with glab. often succulent ls.* (p. 38)

## 14. TAMARICACEÆ—Tamarisk.

Fl. sm. reg.—Sep. and pet. 4–5—Sta. 4–5, or twice as many—Ovary syn., 3 carp.—Ovules many—Styles 3–4—Fr. caps.

*Evergreen shrubs with slender feathery branches and minute ls.—Fl. small in terminal rac.* (p. 38).

## 15. ELATINACEÆ—Waterwort.

Fl. minute reg.—Sep. and pet. 3–4 each—Sta. 6–8—Ovary syn., 3–4 loc.—Ovules on axile placentæ—Styles 3–4—Fr. caps.

*Very sm. aquatic herbs—Ls. opp., stip. interpetiolar* (p. 38).

## 16. HYPERICACEÆ—St. John's Wort.

Fl. reg.—Sep. and pet. 5—Sta. indef., united in 3–5 bundles—Ovary syn., 3–5 loc.—Ovules on axile placentæ—Styles 3–5—Fr. caps. or berry.

*Herbs or sm shrubs—Ls. opp., ent., exstip., having translucent oil glands* (p. 40).

## 17. MALVACEÆ—Mallow.

Fl. reg.—Sep. 5, valvate persist. with epicalyx of 3–9 ls.—Pet. 5, convolute, joined at base to stam. tube—Sta. indef., monadelphous—Ovary syn., many loc.—Ovule 1 in each loc.—Styles free above—Fr. a schizocarp with many 1-seeded cocci (pp. 40–42).

## 18. TILIACEÆ—Lime-tree.

Fl. reg.—Sep. and pet. 5—Sta. indef.—Ovary syn., 5 loc.—Ovules 2 in each loc.—Style simp.—Fr. glob., 1–2 seeded nut.

*Trees—Ls. alt., stip. caducous—Fl. in cymes, pedunc. adnat? to elongated bract* (p. 42).

## 19. LINACEÆ—Flax.

Fl. reg., fugacious—Sep. 4–5—Pet. 4–5, convolute—Sta. 8 or 10—Ovary syn., 4–5 loc.—Ovules 2 in each loc. on axile plac.—Styles 4–5—Fr. a capsule.

*Herbs with narrow ent. ls.* (p. 42).



## 20. GERANIACEÆ—Crane's-bill and Stork's-bill.

Fl. reg. (irreg. in *Impatiens*)—Sep. and pet. 5—Sta. 5-10—Ovary syn., 5 loc.—Styles 1 (5 in *Oxalis*)—Fr. beaked, a schizocarp of 5 cocci (caps., not beaked in *Oxalis*—fleshy explosive caps. in *Impatiens*).

*Herbs with simple ls., stip. or exstip. (trifoliate in Oxalis) (pp. 44-46).*

SERIES \*. CALYCIFLORÆ—*Flowers perigynous or epigynous.*

## 21. AQUIFOLIACEÆ—Holly.

Fl. 1 sex, reg.—Cal. 4-5 parted—Pet. 4-5, connate at base—Sta. 4-5, free or adnate to pet.—Ovary free syn., usually 4 loc.—Fr. drupe with 4 stones.

*Evergreen shrub with coriaceous spinous ls. and axill. cymes of sm. white fls. (p. 46).*

## 22. CELASTRACEÆ—Spindle-tree.

Fl. reg.—Sep. and pet. 4-5—Sta. 4-5, on fleshy disc, alt. with pet.—Ovary syn., 3-5 loc.—Fr. a fleshy cap.—Seeds enveloped in bright red fleshy aril.

*Shrub or sm. tree—Fls. sm. green in axill. cymes (p. 46).*

## 23. RHAMNACEÆ—Buckthorn.

Fl. reg.—Sep. and pet. 4-5—Sta. 4-5, opp. pet.—Ovary syn. 3 loc.—Fr. a 2-4 seeded drupe.

*Shrubs with alt. ls. and sm. gr. fls. (p. 48).*

## 24. ACERACEÆ—Maple.

Fl. reg.—Sep. and pet. 4-9—Sta. usually 8—Ovary syn., 2 lobed, 2 loc., 2 ovules in each—Fr. a schizocarp of 2 winged mericarps (samaras).

*Deciduous trees with opp. exstip. ls.—Infl. rac. or corym.—Fl. sm. green (p. 48).*

## 25. LEGUMINOSÆ—Pea family.

Fl. irreg., papilionaceous—Sep. and pet. 5—Sta. 10, di- or monadelphous—Carp. 1—Fr. a legume.

*Herbs or shrubs—Ls. alt., stip., usually compound (pp. 48-60).*

## 26. ROSACEÆ—Dog Rose.

Fl. reg., usually perig.—Sep. and pet. usually 4-5—Sta. usually indef.—Carp. 1-4 or  $\infty$ , usually apo., 1-2 ovules in each—Styles generally distinct—Fr. various.

*Herbs, shrubs, or trees—Ls. alt., stip., simp., or comp. (pp. 60-74).*

## 27. SAXIFRAGACEÆ—Saxifrage.

Fl. reg., perig. or epig.—Pet. 5—Sta. 5 or 10—Ovary sup. or inf., 1 loc. with 2 parietal placentæ, or 2 loc. and axile placentæ—Styles free—Fr. a caps. or berry.

*Herbs or shrubs (Ribes) (pp. 74-76).*

## 28. CRASSULACEÆ—Stonecrop.

Fl. reg., slightly perig.—Cal. 4-12 lobed—Pet. 4-12 (united in *Cotyledon*)—Sta. twice as many as pet. (except *Tillæa*), epipet. in *Cotyledon*—Carp. free, usually 3—Fr. an agg. of follicles.

*Low perennial herbs with fleshy stems and ls. and often tufted, growing in dry places (p. 78).*

## 29. DROSERACEÆ—Sundew.

Fl. reg.—Sep., pet., and sta. 5, hypogynous or perigynous—Ovary syn., 3-5 carp., 1 loc.—Ovules numerous on 2-5 par. plac.—Fr. 2-5 valved caps.

*Low herbs with rad. rosettes of glandular insect-catching ls. (p. 80).*

## 30. HALORAGACEÆ—Mare's-tail, etc.

Fls. inconspicuous, 1-sex. and apert. (by reduction)—Sep. 2-4 or 0—Sta. 8, 4, 2, or 1—Ovary inf. of 1 carp. or syn., and 4 loc.—Ovule 1 in each loc.

*Aquatic herbs (p. 80).*

## 31. LYTHRACEÆ—Loosestrife.

Fl. reg., showy (minute in *Peplis*)—Sep. 4-6—Pet. 4-6, crumpled in bud—Sta. 8-12—Ovary sup. syn., 2 loc.—Fr. a 2-valved caps.

*Herbs of river-banks and wet places (p. 82).*

## 32. EPILOBIACEÆ—Willow Herb.

Fl. reg., epig.—Sep. and pet. 2-4, convolute—Sta. 2-4 or 8—Ovary inf. syn., 4 loc. with axile placentæ—Fr. a many-seeded caps. or burred nut.

*Herbs with ult. or opp. exstip. ls.* (pp. 82-84).

## 33. CUCURBITACEÆ—Bryony.

Fls. 1 sexual—Cal. and cor. 5 partite, campan.—Sta. 3, anth. coherent, flexuous—Fr. a red berry.

*Perennial herb, climbing by slender unbranched leaf-tendrils* (p. 84).

## 34. UMBELLIFERÆ.

Fls. small, usually reg.—Inflor. generally a compound umbel—Sep. 5, minute—Pet. and sta. 5—Ovary inf.—Fr. a schizocarp of 2 mericarps.

*Herbs with usually much segmented ls., having sheathing bases* (pp. 84-94).

## 35. ARALIACEÆ—Ivy.

Fls. sm. green, reg. in simple umbels—Sep., pet., and sta. 5—Ovary inf., 5 loc.—Fr. a 5-stoned drupe.

*A shrubby root-climber on trees and rocks* (p. 94).

## 36. CORNACEÆ—Dogwood.

Fls. reg.—Sep., pet., and sta. 4-5—Ovary 2 loc.—Fr. a 2-stoned drupe.

*Herb or shrub with opp. ls. and sm. flowers—Floral bracts pure white, petaloid in C. suecica* (p. 94).

SUB-CLASS (2)—GAMOPETALÆ—*Perianth of calyx and corolla; petals united.*SERIES \*. *Flowers epigynous.*a. *Stamens epipetalous.*

## 37. CAPRIFOLIACEÆ—Elder, etc.

Fl. reg. or irreg., usually showy—Cor. lobes usually imbricate in bud—Ovary 1-5 loc.

*Mostly shrubs with ls. opp. exstip. (stip. in Sambucus)* (p. 96).

## 38. RUBIACEÆ—Bedstraw.

Fl. reg., small—Cal. minute—Cor. lobes valvate in bud—Ovary 2 locular.

*Herbs with opp. stip. leaves (apparently verticillate)—Stip. leafy* (pp. 96-98).

## 39. VALERIANACEÆ—Valerian.

Fl. irreg.—Cal. rudimentary—Cor. 5 cleft—Sta. 1 or 3—Ovary with 1 fertile loculus.

*Herbs—Ls. opp.—Fls. sm.* (p. 100).

## 40. DIPSACACEÆ—Teasel, etc.

Inflor. a capitulum, each floret surrounded by an epicalyx—Cal. of 5 bristles—Sta. 4—Anth. free—Ovary 1 loc.—Ovule pendulous.

*Herbs with opp. exstip. ls.* (pp. 100-102).

## 41. COMPOSITÆ = ASTERACEÆ—Daisy, etc.

Inflor. a capitulum, each floret subtended by a small scaly bract or ebracteate—Cal. generally 0 or a hairy pappus—Sta. 5—Anth. united, except in *Ambrosia*—Ovary 1 loc.—Ovule erect.

*Herbs with usually scattered exstip. ls.* (pp. 102-120).

b. *Stamens epigynous.*

## 42. CAMPANULACEÆ—Canterbury Bells.

Fl. reg. or irreg.—Cal. and cor. 5 lobed—Sta. 5—Anth. free or united—Ovary 2-5 loc.—Ovules many on axile placentæ.

*Herbs with alternate ent. ls. and showy (mostly blue) fls.* (pp. 120-122).

## 43. VACCINIACEÆ—Bilberry, etc.

Fl. reg.—Cal. and cor. 4-5 lobed—Sta. 8-10—Anth. with appendages—Ovary 4-5 loc.—Fr. a berry.

*Low shrubs (mostly mountainous) with alt. ls. and sol. white or red fls.* (p. 122).



SERIES \*. \*. *Flowers hypogynous.*

*a. Flower reg.—Stamens usually twice as many as corolla lobes—Ovary 4-5 locular.*

## 44. ERICACEÆ—Heath.

Sta. 5-8-10—Anth. usually opening by apical pores—Pollen in tetrads.

*Shrubs and undershrubs with evergreen leaves and small fls. (pp. 124-126).*

## 45. MONOTROPACEÆ—Bird's-Nest.

*Brown saprophytes, with scale-like ls. (p. 126).*

*b. Flowers reg.—Stamens as many as and opposite corolla lobes—Ovary 1 locular—Placentation free central.*

## 46. PLUMBAGINACEÆ—Sea Pink.

Styles 5—Ovule 1 basal—Fr. a nut.

*Herbs mostly maritime—Fls. small, mostly blue or pink (p. 126).*

## 47. PRIMULACEÆ—Primrose.

Style 1—Ovules numerous—Fr. a caps.

*Herbs with generally radical ls. (pp. 128-130).*

*c. Flowers regular—Stamens 2-4-5, alternate with cor. lobes—Ovary 2 loc. —Leaves opp. (see 50).*

## 48. OLEACEÆ—Ash, Privet.

Cal. and cor. 4 cleft or 0—Sta. 2—Fr. a berry or samara.

*Trees or shrubs, with opp. ls. (p. 130).*

## 49. APOCYNACEÆ—Periwinkle.

Cal. and cor. 5 cleft—Sta. 5—Carp. 2, united only by their styles—Fr. of 2 foll.

*Slender, decumbent undershrub, with ent. evergreen ls. and blue or white fls.*

*(p. 130).*

## 50. GENTIANACEÆ—Centaury, Bogbean.

Cal. and cor. 4-8 cleft—Sta. 4-8—Ovary incompletely 2 loc.—Placentæ parietal—Fr. a caps.

*Herbs with opp. ent. ls. (alt. and 3-foliate in Menyanthes) and mostly showy fls. (pp. 130-132).*

*d. Flowers regular or subregular—Sta. 4-5, alt. with cor. lobes—Ovary 2-3 or 4 locular—Ls. alt.*

## 51. POLEMONIACEÆ—Jacob's Ladder.

Cal. and cor. 5 lobed—Sta. 5—Ovary 3 locular—Stigma 3-fid.—Fr. a caps.

*Herbs with pinnate ls. and showy blue or white fls. (p. 134).*

## 52. BORAGINACEÆ—Forget-me-not, etc.

Cal. and cor. 5 lobed—Sta. 5—Ovary deeply 4 lobed, 4 loc. (by false septa), 1 ovule in each loc.—Style simple, inserted between the 4 lobes—Fr. separating into 4 nutlets.

*Hispid or scabrid herbs—Fls. in scorpioid cymes (pp. 134-138).*

## 53. CONVULVULACEÆ—Bindweed, etc.

Cal. and cor. 5 lobed—Sta. 5—Ovary 2 locular, with 2 ovules in each locus—Style two-branched—Fr. a caps.

*Herbs, generally climbing by twining stems (Cuscuta is a small lianoid parasite with minute ls. and is almost devoid of chlorophyll) (p. 138).*

## 54. SOLANACEÆ—Nightshade, etc.

Cal. and cor. 5 cleft—Sta. 5, often coherent—Ovary 2 locular, ovules many, axile—Fr. a berry or caps.

*Herbs with ls. alt. or arranged in unequal pairs (pp. 138-140).*

## 60. PLANTAGINACEÆ—Plantain.

Cal. 4—Cor. 4-lobed, scarious—Sta. 4, filaments slender—Anth. versatile—Ovary 2-4 loc.—Style and stig. filiform.

*Herbs with ls. in a radical rosette and close spikes of sm. fls. (Littorella is an aquatic, with 1-sex fls.) (p. 160).*

*c. Flowers irreg. (reg. in Verbascum.)—Sta. 2 or 4, rarely 5 (see 55).*

55. SCROPHULARIACEÆ—Foxglove, Toad-flax, etc.

Cal. 4-5 lobed—Cor. 4-5 lobed, usually 2-lipped—Sta. 4, in pairs of different lengths (5 in Verbascum)—Ovary 2 loc.—Ovules many, axile—Fr. a caps.

*Herbs with alt. or opp. ls. (pp. 140-148).*

56. OROBANCHACEÆ—Broom-rape.

Fls. in a term. rac.—Cor. 4-5, cleft gaping—Sta. 4, in pairs of different lengths—Ovary 1 loc.—Fr. caps., seeds minute.

*Brownish herbs, devoid of chlorophyll, parasitic on the roots of other plants, ls. reduced to scales (p. 148).*

57. LENTIBULARIACEÆ—Bladderwort and Butterwort.

Cal. 3 partite—Cor. 2 lipped—Sta. 2—Ovary 1 loc., placentation free-central—Fr. a many-seeded caps.

*Marsh herbs with radical ent. ls., or floating or creeping aquatics with multifid ls. bearing sm. bladders—All insectivorous (pp. 148-150).*

58. VERBENACEÆ—Vervain.

Cal. tubular—Cor. tubular, usually 2 lipped—Sta. 4, in pairs of different lengths—Ovary rounded, 4 locular (false septa)—Ovules 4—Style terminal.

*Herb with opp. ls. (p. 150).*

59. LAMIACEÆ (Labiatae)—Mints, etc.

Cal. 5 cleft (often 2 lipped)—Cor. usually 2 lipped—Sta. 4, in pairs of different lengths, or 2—Ovary deeply 4 lobed, 4 loc. (by septa)—Style inserted between the 4 lobes—Fr. separating into 4 nutlets.

*Herbs, often aromatic, mostly with quadrangular stems and opp. ls.—Fls. in condensed axillary cymes (pp. 150-158).*

SUB-CLASS (3)—APETALÆ—*Perianth usually in 1 whorl, sepaloid, or absent.*

*a. Flowers not in catkins—Ovary superior.*

61. ILLECEBRACEÆ.

Fls. 2 sexual—Sep. 4-5, persistent round the fr.—Pet. small or 0—Sta. opp. the sep.—Ovary 1 loc.—Ovule 1—Style bifid.—Fr. a sm. nut.

*Small branching herbs, with entire ls. and scarious stip. (except Scleranthus) (p. 160).*

62. AMARANTACEÆ.

Flowers 1 sexual—Perianth 3-5 parted—Sta. 3-5 opp. per.—Ovary 1 loc.—Ovule 1—Stigmas 3.

*Herbs with exstip. leaves—Fls. small, green, in a dense bracteate inflorescence. (p. 162).*

63. CHENOPODIACEÆ—Goosefoot.

Flowers 1-2 sexual—Per. 3-5 lobed, persistent after flowering—Sta. 5 or 3, rarely less—Ovary 1 loc.—Ovule 1—Stigmas usually 2—Fr. indehiscent.

*Herbs with exstip. leaves (or leafless with jointed stems)—Flowers small in a dense inflorescence, often ebracteate (pp. 162-164).*

64. POLYGONACEÆ—Docks, etc.

Fl. usually 2 sexual—Per. 5 or 6 parted, green or red, persistent after flowering—Sta. 5-8—Ovary 1 loc.—Ovule 1, erect—Styles 3—Fr. a triangular nut.

*Herbs with alt. leaves, and connate stipules forming a tube (ocrea)—Fls. small (pp. 166-168).*

66. THYMELÆACEÆ—Spurge Laurel, Mezereum.

Fl. 2 sexual—Perianth tubular, 4 lobed, green or red—Sta. 8 in two series—Fruit a berry.

*Shrubs with entire exstip. leaves and conspicuous sweet-scented flowers (p. 170).*



## 67. ELÆAGNACEÆ—Sea Buckthorn.

Fl. 1 sexual—Male fls. in axill. clusters—Per. 2 ls.—Sta. 4; female fls. sol.—Per. 2-6 cleft—Carp. 1, with 1 erect ovule—Fr. ach. enclosed in orange-coloured fleshy base of perianth (receptacle).

*A dioecious shrub, with silvery scale-like hairs, and spinescent short branches (p. 170).*

## 70. EUPHORBIACEÆ—Spurge, etc.

Euphorbia—Herbs with latex—Inflor. cymose, ultimate branches are cyathia composed of an involucre of 5 fused bracts—Male fls. numerous, each of 1 sta.—Female fls. solitary, terminal, projecting 3 loc.—Styles 3, deeply divided—Perianth absent.

Mercurialis—Herbs without milky juice—Fls. distinct in racemes—Per. 3—Sta. 8-20—Ovary 2 loc.—Styles 2.

Buxus—Evergreen shrub or sm. tree—Fls. in axillary clusters of many male fls. surrounding a terminal female flower (p. 172).

## 71. ULMACEÆ—Elm.

Flowers 2 sexual—Per. 4-8 part.—Sta. 4-8—Fruit a samara.

*Trees with alt. leaves and caducous stipules (p. 174).*

## 72. URTICACEÆ—Stinging-nettle, etc.

Flowers 1 sexual—Per. 4-5 partite—Sta. inflexed in bud—Ovary 1 loc.—Ovule 1—Fruit an achene.

*Herbs with alt. or opp. stip. leaves, provided with stinging hairs in Urtica, simple hairs in Parietaria. Humulus (Hop) has twining stem—Male infl. paniculate—Female infl., few flowered, catkin-like (p. 174).*

## 77. CERATOPHYLLACEÆ—Hornwort.

Fls. axillary 1 sexual—Per. 6-12—Sta. 6-12—Carpel 1—Ovule 1.

*Submerged water-plants with whorled much-segmented leaves (p. 182).*

*b. Flowers not in catkins—Ovary inferior.*

## 65. ARISTOLOCHIACEÆ—Birthwort, etc.

Flowers 2 sexual—Per. sup. 3 lobed or trumpet-like—Sta. 6-12—Ovary 6 loc.—Ovules numerous.

*Perennial herbs—Leaves rad. or cauline—Fls. solitary or axillary (p. 170).*

## 68. LORANTHACEÆ—The Mistletoe.

Flowers 1 sexual, small, green—Per. of 4 ls.—Sta. fused to the per. leaf—Ovary 1 loc.—Fruit a berry.

*An evergreen epiphytoid parasite with opp. entire leaves, branching dichasial (p. 170).*

## 69. SANTALACEÆ—Bastard Toad-flax.

Flowers 2 sexual—Per. 5 lobed, persistent—Sta. 5—Ovary 1 loc.—Ovules 3 on a central placenta.

*A green herbaceous root-parasite, with narrow alternate leaves and racemes of small flowers (p. 170).*

*c. Flowers in catkins—1 sexual.*

## 73. MYRICACEÆ—Sweet Gale.

Flowers in short erect catkins—Bracts imbricating—Perianth 0—Sta. 2-16—Ovary 1 loc.—Ovule 1 erect.

*A small aromatic shrub with alt. exstip. leaves (p. 174).*

## 74. AMENTACEÆ—Oak, Beech, Hazel, Birch, etc.

Bracts coherent into a 3-5 lobed scale or forming an involucre—Plants monoecious—Perianth 0 or 4-5 or 6 minute—Sta. 2-20—Ovary inferior, 2-3 loc.—Ovules 2-6—Fruit a nut, winged or not, free or partly or wholly enclosed in a capsule.

*Trees or shrubs with alt. stip. leaves (p. 174).*

## 75. SALICACEÆ—Willows and Poplars.

Plants dioecious—Bracts simple—Perianth 0—Stamens 2 or more—Ovary superior,

1 loc.—Ovules numerous, parietal—Fruit a 2-valved capsule—Seeds numerous, minute, bearing a pencil of silky hairs.

*Trees or shrubs with alt. stip. leaves* (pp. 176–180).

*d. Small shrub, with black berries, fl. clustered, inconspic.*

76. EMPETRACEÆ—Crowberry.

Flowers 2 sexual—Per. of 6 scales (Sep. 3—Pet. 3 ?)—Sta. 3—Ovary 3–9 loc.—Ovules 1 in each loc.—Fruit a berry (drupe?).

*Small heath-like shrub with evergreen leaves and minute flowers* (p. 182).

## Class 2.—Monocotyledons.

Floral leaves in threes—Foliage leaves parallel-veined—Embryo with one cotyledon.

SUB-CLASS (1)—PETALOIDÆ—*Perianth 2 seriate, inner series or both petaloid—Flowers usually 2 sexual.*

\* *Flowers epigynous—Ovary inferior.*

78. HYDROCHARIDACEÆ—Frog-bit and Water Soldier.

Flowers 1 sexual, *regular*—Per. 3–3 inner petaloid (except *Elodea*)—Sta. 3 or more—Ovary 1 or 3–6 loc.—Styles free—Fruit baccate.

*Aquatic herbs having submerged or floating leaves, and usually conspicuous flowers* (p. 182).

79. ORCHIDACEÆ.

Flowers 2 sexual, irregular—Sta. 1 or 2, gynandrous—Ovary 1 loc.—Ovules numerous on 3 parietal placentæ—Fruit a capsule.

*Perennial herbs mostly with tuberous roots and spicate inflor.* (pp. 182–188).

80. IRIDACEÆ—Iris, etc.

Flowers 2 sexual, regular—Sta. 3—Ovary 3 loc. with many ovules on axile placentæ—Stigmas 3—Fruit a capsule.

*Herbs perennating by rhizomes or corms* (p. 190).

81. AMARYLLIDACEÆ—Daffodil, etc.

Flowers 2 sexual, regular—Stamens 6—Ovary 3 loc. with many ovules on axile placentæ—Fruit a capsule.

*Herbs perennating by bulbs* (pp. 190–192).

82. DIOSCOREACEÆ—Black Bryony.

Flowers 1 sexual—Per. small, 6 parted—Sta. 6—Ovary 3 loc.—Fruit a berry.

*A climbing herb, diœious, with broad leaves net-veined* (p. 192).

\* \* *Flowers hypogynous—Ovary superior.*

83. LILIACEÆ—Lily, etc.

Flowers 2 sexual, usually regular—Per. 6 petaloid—Sta. 6—Ovary 3 locular—Fruit a capsule or berry.

*Herbs (evergreen undershrub in Ruscus) perennating by bulbs or rhizomes* (pp. 192–198).

84. JUNCACEÆ—Rushes.

Flowers 2 sexual—Per. 6 part., sepaloid, glumaceous—Ovary 1 or 3 locular—Ovules 3 or many—Fruit a capsule.

*Grass-like herbs with narrow leaves and small brown flowers* (pp. 198–202).

88. ALISMACEÆ—Water Plantain, Arrow-head, etc.

Flowers usually 2 sexual—Per. 6, inner or both series petaloid—Sta. 6 or more—Carpels many (*apocarpous*)—Fruit an agg. of ach. or foll. (*Butomus*).

*Marsh or water-plants* (p. 204).



## 80. NAIADACEÆ—Pondweeds, etc.

Flowers 2 or 1 sexual, monœcious or diœcious—Per. scale-like or 0—Sta. 1-4—Carpels 1-4 (*apocarpous*) 1 ovuled.

*Marsh or water-plants, mostly with floating or submerged leaves* (pp. 206-210).

SUB-CLASS (2)—SPADICIFLORÆ—*Perianth rudimentary or 0—Flowers 1 sexual, usually crowded in a compact spadix with or without a spathe.*

## 85. TYPHACEÆ—Bur-reed, Bulrush, etc.

Flowers monœcious, spadix globose or cylindric without a spathe—Per. scaly or hairy—Sta. usually 3—Ovary 1 or 2 loc.—Style persist.

*Erect marsh or water plants with linear leaves* (p. 202).

## 86. ARACEÆ—Lords and Ladies and Sweet Flag.

Flowers 1-2 sexual on a spadix enclosed in a spathe when young—Per. 6, scale-like or 0—Sta. 6 or less—Ovary 1 or 2-3 loc.—Fruit a berry.

*Herbs of hedge-banks or ditches—Leaves broad and net-veined or ensiform* (p. 202).

## 87. LEMNACEÆ—Duckweed.

Flowers 1 sexual, monœcious—Inflor. of 2 male flowers and 1 female flower in a reduced spathe—Sta. 1—Carpel 1.

*Minute floating leafless plants with green flattened oval stems, rarely flowering* (p. 204).

SUB-CLASS (3)—GLUMIFLORÆ—*Perianth 0 or rudimentary—Flowers in heads or spikelets invested by scaly persistent bracts (glumes).*

## 90. ERIOCAULONACEÆ—Pipe-wort.

Flowers inconspicuous, 1 sexual in involucrate heads—Per. usually scaly in 2 whorls (3 + 3)—Sta. 4 or 6—Ovary 2-3 loc.—Stigmas 2-3—Fruit caps.

*Perennial herb with grass-like leaves* (p. 212).

## 91. CYPERACEÆ—Sedges.

Flowers 1-2 sexual, forming spikelets in axils of scaly bracts (glumes)—Per. 0 or of 3-6 bristles—Sta. 1-3—Anthers basifixed—Ovary 1 loc.—Style 1—Stigmas 2-3—Ovule 1—Fruit an achene.

*Grass-like plants with 3-gonous, usually solid stem—Leaves in 3 ranks with entire sheaths* (pp. 212-228).

## 92. GRAMINACEÆ—True Grasses.

Flowers usually 2 sexual, sessile in axil of bracts (flowering glumes), arranged in spikelets—Sta. 3—Anthers versatile—Ovary 1 loc.—Stigmas 2, sessile—Ovule 2—Fruit an achene, adherent to pericarp (caryopsis).

*Stem hollow, except at swollen nodes—Leaves in 2 ranks with split sheaths* (pp. 228-250).

## GROUP II.

GYMNOSPERMS, seed-bearing plants—Ovules borne on open carpels (no ovary).

## 93. PINACEÆ (Coniferæ)—Pine, Larch, Yew, Juniper (p. 252).

## GROUP III.

PTERIDOPHYTA, seedless plants—The "plant" produces *spores*, developing distinct but inconspicuous sexual plants (prothallia) on germination.

## Class I.—Lycopodinæ.

Shoots much branched—Leaves simple, small—Sporophylls aggregated on special erect shoots (cones)—Spores of 1 or 2 kinds.

## 102. SELAGINELLACEÆ.

Spores of 2 kinds—Leaves of 2 sizes in 4 vertical ranks (p. 264).

## 101. LYCOPODIACEÆ—Club-Mosses.

Spores of 1 kind—Leaves spirally arranged (p. 264).

**Class II.—Equisetinæ.**

Shoots bearing regular whorls of short, green branches—Internodes jointed—Leaves whorled, coherent into a sheath, not green—Sporophylls in a terminal cone—Spores of 1 kind.

## 94. EQUISETACEÆ—Horse-tails (pp. 252-254).

**Class III.—Filicinæ.**

Shoots with few or no branches—Leaves usually large, segmented—Sporophylls often similar to the foliage leaves—Spores of 1 or 2 kinds.

*\* Spores of 1 kind.*

## 95. POLYPODIACEÆ—The common Native Ferns.

Leaf-blade many cells thick, usually large and pinnate—Sori on lower surface—Sporangia stalked—Annulus vertical incomplete—Dehiscence transverse (pp. 254-260).

## 96. HYMENOPHYLLACEÆ—Filmy Ferns.

Leaf-blade translucent, usually 1 cell thick—Sori marginal—Sporangia nearly sessile on an elongated placenta—Annulus horizontal, complete—Dehiscence longitudinal (p. 260).

## 97. OSMUNDACEÆ—Royal Fern.

Leaf-blade bipinnate, lower pinnæ vegetative, upper pinnæ are reproductive only, no mesophyll—Sori naked confluent—Sporangia shortly stalked—Annulus a group of cells near apex (p. 260).

## 98. OPHIOGLOSSACEÆ—Adder's Tongue, Moonwort.

Small herbs—Leaf-blade simple or pinnate, split into 2 parts—Dorsal part vegetative—Ventral part reproductive and simple or pinnate—Sporangia not arranged in sori, sessile; no annulus—Dehiscence transverse (p. 262).

*\* \* Spores of 2 kinds.*

## 99. MARSILEACEÆ—Pillwort.

A small aquatic—Rhizome thin, creeping—Leaves erect, setaceous—Sporocarps globose, attached on inner side of leaf-base. Each containing both micro- and macro-sporangia—Dehiscence vertically into 4 valves (p. 262).

## 100. ISOETACEÆ—Quillwort.

Small aquatic or terrestrial plants—Rhizome short, stout—Leaves tufted, sessile, filiform with sheathing bases—Sporangia borne singly at base of each leaf, large, chambered (p. 262).

## 103. SALVINIACEÆ—Azolla.

Small free floating aquatics—Ls. horizontal, closely corded, 2 ranked—Sporocarp unilocular with micro- and macro-sporangia in separate sporocarps.



## EXPLANATORY NOTES

### POLYPETALÆ.

Petals absent or very minute in the following :—

- Ord. 1.—Clematis, Thalictrum, Anemone, Caltha.
- Ord. 6.—Cardamine, Coronopus, Lepidium.
- Ord. 12.—Sagina, etc.
- Ord. 26.—Alchemilla, Poterium.
- Ord. 27.—Chrysosplenium.
- Ord. 30.—All genera.
- Ord. 31.—Peplis.
- Ord. 32.—Ludvigia.

Petals more or less united in :—

- Ord. 5.—Fumariaceæ.
- Ord. 10.—Polygalaceæ
- Ord. 13.—Portulacæ.
- Ord. 17.—Malvaceæ.
- Ord. 21.—Aquifoliaceæ.
- Ord. 28.—Crassulaceæ (Cotyledon).
- Ord. 33.—Cucurbitaceæ.

### GAMOPETALÆ.

Pet. 0 in Ord. 48, Fraxinus, and Ord. 47, Glaux—Petals free, or nearly so, in Ord. 43, Oxycoccus, Ord. 44, Pyrola, and Ord. 45, Monotropa.

### APETALÆ.

Ord. 72, Urticaceæ.—Fem. fl. sometimes in catkins.

### MONOCOTYLEDONS.

Leaves net-veined in Ord. 82, Dioscoreaceæ, Ord. 83, Liliaceæ (Paris), Ord. 86, Araceæ (Arum).

## ARTIFICIAL KEYS TO THE GENERA

## ORD. I.—RANUNCULACEÆ (p. 2).

## A. Flowers regular.

## \* Corolla absent.

- Sep.* 4-6—*A climbing shrub, with opposite ls.—*  
*Fr. achene with persistent hairy styles . . .* GEN. I. CLEMATIS  
*Sep.* 4-5, *imbric.—Invol.* 0—*Herbaceous—Fr. ach.* GEN. II. THALICTRUM  
*Sep.* 5-14, *petaloid, with a 3-partite invol., some*  
*distance below fl.—Fr. achene . . . . .* GEN. III. ANEMONE  
*Sep.* 5, *petaloid, yellow—Fr. follicular . . . . .* GEN. VII. CALTHA

## \* \* Corolla present.

- Pet.* 5-10, *scarlet—Sep.* 5-8, *petaloid . . . . .* GEN. IV. ADONIS  
*Pet.* 5, *tubular—Sep.* 5, *spurred—Receptac. spicate* GEN. V. MYOSURUS  
*Pet.* 5—*Sep.* 5, *imbric.—Carpels in an obl. or glob.*  
*head—Achene with 1 ascending seed . . . . .* GEN. VI. RANUNCULUS  
*Pet.* 5-15, *sm., obl.—Sep.* 5—*Flower globular . .* GEN. VIII. TROLLIUS  
*Pet.* 8-10, *sm., green, tubular—Sep.* 5, *green,*  
*persistent . . . . .* GEN. IX. HELLEBORUS  
*Pet.* 5, *tubular—Sep.* 5, *deciduous . . . . .* \*GEN. X. FRANTHIS (Cammarum)  
*Pet.* 5, *spurred—Sep.* 5, *petaloid . . . . .* GEN. XI. AQUILEGIA  
*Pet.* 4—*Sep.* 4, *caducous—Fl. nearly regular—Fr.*  
*a berry . . . . .* GEN. XIV. ACTÆA  
*Pet.* 5, *or more, red—Sep.* 5, *persistent—Foll.* 2-5,  
*many seeded, bursting inwards . . . . .* \*GEN. XV. PÆONIA

## B. Flowers irregular.

- Sep.* 5, *upper one spurred—Pet.* 4, *2 upper enclosed*  
*in spur . . . . .* \*GEN. XII. DELPHINIUM  
*Sep.* 5, *upper one hooded—Pet.* 2-5, *2 upper en-*  
*closed in hood . . . . .* GEN. XIII. ACONITUM

## ORD. II.—BERBERIDACEÆ (p. 8).

- Pet., sep., sta.* 6—*A prickly yell. fld. shrub—Fr. a*  
*berry . . . . .* GEN. I. BERBERIS  
*Sep.* 4, *decid.—Pet.* 4—*Sta.* 4—*A sm. woody per.*  
*—Fr. pod-like . . . . .* \*GEN. II. EPIMEDIUM

## ORD. III.—NYMPHÆACEÆ (p. 8).

- Sep.* 5-6—*Pet. inserted on receptacle—Fl. yell. .* GEN. I. NYMPHÆA  
*Sep.* 4, *greenish—Pet. inserted on base of ovary—*  
*Fl. white . . . . .* GEN. II. CASTALIA

## ORD. IV.—PAPAVERACEÆ (p. 10).

- Fr. ov. or glob.—Stig.* 4-20 *rayed, sub-sess. form-*  
*ing a radiating disk . . . . .* GEN. I. PAPAVER  
*Fr. obl.—Stig.* 5-6 *rayed—Style short . . . . .* GEN. II. MECONOPSIS  
*Fr. lin., 2 locular—Fl. large, yellow . . . . .* GEN. III. GLAUCIUM  
*Fr. lin., 1 locular—Fl. violet—Seed not crested .* \*GEN. IV. ROEMERIA  
*Fr. lin., 1 locular—Fl. yell., sm.—Seeds crested .* GEN. V. CHELIDONIUM

## ORD. V.—FUMARIACEÆ (p. 10).

- Fr. long, many seeded, dehiscent* . . . . . GEN. I. CORYDALIS  
(Capnoides)  
*Fr. roundish, 1 seeded, indehiscent* . . . . . GEN. II. FUMARIA

## ORD. VI.—CRUCIFERÆ (p. 12).

A. Fruit long (a siliqua).

\* Siliqua neither beaked nor jointed.

a. Calyx saccate at base.

- Fr. linear, rounded or compressed—Stig. 2 lobed, gibbous or horned at back—Fl. purple* . . . GEN. I. MATHIOLA  
*Fr. compressed, or 2 edged, with a rib on each valve—Stig. 2 lobed—Fl. yell. or brownish-yellow* . \*GEN. II. CHEIRANTHUS  
*Fr. quadrang., valves nerved—Stig. 2 lobed; lobes erect, ellip., obtuse* . . . . . \*GEN. XI. HESPERIS

b. Calyx equal at base.

- Fr. lin., terete, short; valves convex, nerveless—Seeds sm., in 2 irregular rows* . . . . . GEN. III. RADICULA  
(Nasturtium).  
*Fr. lin., 4 angled; valves with prominent rib—Seeds in 1 row* . . . . . GEN. IV. BARBAREA  
*Fr. lin., flat; valves flat, with prominent rib or swelling veins—Seeds in 1 row, except Arabis Turrita* . . . . . GEN. V. ARABIS  
*Fr. flat; valves elastic, without veins* . . . . . GEN. VI. CARDAMINE  
*Fr. lin., terete; valves convex, with 2 veins (1 veined in S. Thalianum)—Seeds in 1 row* . . GEN. XII. SISYMBRIUM  
*Fr. lin., quadrang.; valves with prominent nerve—Cauline leaves not cordate—Fl. yell.—Seeds in 1 row.* . . . . . GEN. XIII. ERYSIMUM  
*Ditto—Cauline leaves cord., amplex.—Fl. white.* \*GEN. XIV. CONRINGIA  
\* \* Siliqua beaked.  
*Fr. lin., terete or angular—Seeds in 1 row—Fl. yell.* GEN. XVII. BRASSICA  
*Fr. compressed—Seeds in 2 rows—Flowers yellow* GEN. XVIII. DIPLOTAXIS  
\* \* \* Siliqua jointed.  
*Fr. tapering, divided into 1-seeded joints* . . . GEN. XXIX. RAPHANUS

B. Fruit broad (a silicula).

\* Silicula 2 valved.

a. Silicula turgid, or dorsally compressed.

- Fr. compressed; circ.; few (2-8) seeded—Pet. ent.* \*GEN. VII. ALYSSUM  
*Fr. obl., flat, many seeded—Petal entire.* . . . GEN. VIII. DRABA  
*Fr. obl., short or lin., flat or turgid—Pet. 2 cleft* GEN. IX. EROPHILA  
*Fr. glob., turgid, many seeded—Dorsal vein prominent—Petal entire* . . . . . GEN. X. COCHLEARIA  
*Fr. sub-oval; valves inflated, 1 nerved; many seeded—Cauline ls. auricled.* . . . . . \*GEN. XV. CAMELINA  
*Fr. oval, valves boat-shaped, 4-seeded loculus—Ls. subulate; small aquatic* . . . . . GEN. XVI. SUBULARIA

b. Silicula laterally compressed.

- Fr. triangular, cuneate, valves keeled, not winged, many seeded* . . . . . GEN. XIX. CAPSELLA  
(Bursa)  
*Fr. ov., notched, valves compressed, keeled; loc. 1-2 seeded* . . . . . GEN. XXI. LEPIDIUM  
*Fr. obov., notched, valves winged; many seeded—Pet. equal* . . . . . GEN. XXII. THLASPI



- Fr. glob., notched, valves winged, loc. 1 seeded—*  
*Pet. unequal* . . . . . GEN. XXIII. *IBERIS*
- Fr. obcord., emarginate; valves boat-shaped,*  
*keeled below, slightly winged above—Pet. un-*  
*equal—Filam. with basal scales* . . . . . GEN. XXIV. *TEESDALEA*
- Fr. ellip., ent.; valves keeled; loc. 2 seeded—Pet.*  
*equal—Filam. without scales* . . . . . GEN. XXV. *HUTCHINSIA*
- \* \* Silicula 1 or 2 jointed, each joint 1 seeded.
- Fr. broader than long, roughly wrinkled, indehis-*  
*cent, notched at base and apex, 2 jointed, each*  
*1 seeded* . . . . . GEN. XX. *CORONOPUS*
- Fr. flat, oblong, with keeled valves, 1 loc., 1 seeded* . . . . . GEN. XXVI. *ISATIS*
- Fr. of 2 joints; upper glob., 1 seeded, lower seed-*  
*less, stalk-like* . . . . . GEN. XXVII. *CRAMBE*
- Fr. ang., of two 1-seeded joints, upper fertile, sess.,*  
*ensiform, deciduous, lower persistent, obconic;*  
*seed pendulous—Indehiscent.* . . . . GEN. XXVIII. *CAKILE*

## ORD. VII.—RESEDACEÆ (p. 22).

- Pet. many partite—Sep. divided—Sta. 10-40* . . . GEN. I. *RESEDA*

## ORD. VIII.—CISTACEÆ (p. 24).

- Pet. 5, fugacious, white or yell., regular—Sep. 5,*  
*the 2 outer smaller—Sta. many, free* . . . GEN. I. *HELIANTHEMUM*

## ORD. IX.—VIOLACEÆ (p. 24).

- Pet. 5, unequal, lower spurred—Sta. 5* . . . . . GEN. I. *VIOLA*

## ORD. X.—POLYGALACEÆ (p. 26).

- Cor. irregular—Sep. 5, 2 inner petaloid—Sta. 8—*  
*Seed solitary* . . . . . GEN. I. *POLYGALA*

## ORD. XI.—FRANKENIACEÆ (p. 28).

- Style trifid—Caps. 1 loc., 3-4 valved* . . . . . GEN. I. *FRANKENIA*

## ORD. XII.—CARYOPHYLLACEÆ (p. 28).

## A. Sepals united in a tube—Sta. 10.

- Style 2—Cal. with 2 opposite bracts at base—Caps.*  
*4 valved* . . . . . GEN. I. *DIANTHUS*
- As Dianthus, but with the petals distinctly cu-*  
*neate with attenuated base* . . . . . GEN. II. *TUNICA*
- Style 2—Cal. without bracts at base—Caps. 4*  
*valved* . . . . . \*GEN. III. *SAPONARIA*
- Style 3-4—Caps. 6, rarely 3 valved, opening with*  
*6 apical teeth* . . . . . GEN. IV. *SILENE*
- Style 3—Cal. 5 toothed—Caps. a glob. 1-seeded berry* \*GEN. V. *CUCUBALUS*
- Styles 4-5—Pet. with scale (ligule) at base* . . . GEN. VI. *LYCHNIS*

## B. Sepals distinct—Sta. 4-10.

## \* Leaves without stipules.

- Sta. 3-5—Pet. jagged at end—Styles 3* . . . . . GEN. VII. *HOLOSTEUM*
- Sta. 4-10—Pet. bifid—Sty es 4-5 (3 in C. erectum*  
*and C. Cerastoides, which have 4 sta., pet., and*  
*sep.)—Capsule cylindrical* . . . . . GEN. VIII. *CERASTIUM*
- Sta. 10—Pet. bifid—Styles 3—Capsule globose* . . . GEN. IX. *STELLARIA*
- Sta. 8-10—Pet. 5, entire—Sep. 5—Sty. 3-4 (rarely 5)* GEN. X. *ARENARIA*
- Sta. 4-10—Pet. 4-5 (or 0), shorter than sep.—Sty. 4-5* GEN. XI. *SAGINA*

\* \* Leaves with scarious stipules.

- Styles 5, capsules 5, valved* . . . . . GEN. XII. SPERGULA  
*Styles 3, capsules 3, valved* . . . . . GEN. XIII. SPERGULARIA  
*Styles 3, short, connate at base—Pet. 5, emarginate*  
*—Fr. 1 loc., many seeded* . . . . . GEN. XIV. POLYCARPON

ORD. XIII.—PORTULACEÆ (p. 38).

- Pet. 4-6, distinct or united at base—Cal. bifid,*  
*deciduous—Sta. 8-15, distinct* . . . . . \*GEN. I. PORTULACA  
*Pet. 5, distinct—Sta. 5—Sep. 2, persistent* . . . \*GEN. II. CLAYTONIA  
*Pet. 5, united at base—Sta. 3—Sep. 2, persistent* . GEN. III. MONTIA

ORD. XIV.—TAMARICACEÆ (p. 38).

- Pet. and sep. 4-5—Styles 5—Shrub* . . . . . \*GEN. I. TAMARIX

ORD. XV.—ELATINACEÆ (p. 38).

- Pet., sep., and sta. 3-4—Small aquatic* . . . . . GEN. I. ELATINE

ORD. XVI.—HYPERICACEÆ (p. 40).

- Pet. and sep. 5—Styles 3, rarely 5—Fl. yellow* . . GEN. I. HYPERICUM

ORD. XVII.—MALVACEÆ (p. 40).

- Involucre 6-9 lobed (connate at base)* . . . . . GEN. I. ALTHÆA  
*Involucre 3 lobed (connate at base)* . . . . . GEN. II. LAVATERA  
*Involucre of 3 distinct leaves* . . . . . GEN. III. MALVA

ORD. XVIII.—TILIACEÆ (p. 42).

- Pet. and sep. 5—Sta. many—Sty. 1—Fr. globose,*  
*indehiscent—Trees* . . . . . GEN. I. TILIA

ORD. XIX.—LINACEÆ (p. 42).

- Pet., sep. (toothed), and stamens 4* . . . . . GEN. I. RADIOLA  
*Pet., sep. (entire), and stamens 5* . . . . . GEN. II. LINUM

ORD. XX.—GERANIACEÆ (p. 44).

\* Fls. regular.

- Sta. 10, all fertile—Fr. of 1-seeded cocci—Awns*  
*not spiral* . . . . . GEN. I. GERANIUM  
*Sta. 5 (and 5 barren)—Fr. 1-seeded cocci—Awns*  
*spirally coiled, bearded inside* . . . . . GEN. II. ERODIUM  
*Sta. 10—Styles 5—Caps. 5-10 valved—Loc. 2 or*  
*more seeded* . . . . . GEN. III. OXALIS

\* \* Fls. irregular.

- Sta. 5—Sep. coloured, lower spurred—Fr. a fleshy*  
*explosive capsule* . . . . . GEN. IV. IMPATIENS

ORD. XXI.—AQUIFOLIACEÆ (p. 46).

- Cor. rotate—Cal. 4-5 cleft—Small, prickly leaved*  
*tree* . . . . . GEN. I. ILEX

ORD. XXII.—CELASTRACEÆ (p. 46).

- Fl. cymose—Fr. rose coloured, dehiscent—Seeds*  
*with an orange aril* . . . . . GEN. I. EVONYMUS



## ORD. XXIII.—RHAMNACEÆ (p. 48).

*Calyx 4-5 cleft, urceolate—Fr. fleshy, berry like* . GEN. I. RHAMNUS

## ORD. XXIV.—ACERACEÆ (p. 48).

*Pet. and sep. 5—Sta. 8—Fr. splitting into 2-winged samaras* . . . . . GEN. I. ACER

## ORD. XXV.—LEGUMINOSÆ (p. 49).

## A. Stamens all united (monadelphous).

- Ls. digitate—Cal. deeply 2 lipped* . . . . . \*GEN. I. LUPINUS  
*Ls. simple—Cal. slightly 2 lipped, without bracts, much shorter than cor.* . . . . . GEN. II. GENISTA  
*Ls. simple—Cal. deeply 2 lipped, coloured, with bracts at base, nearly as long as cor.* . . . . . GEN. III. ULEX  
*Ls. ternate—Cal. 2 lipped; upper lip bifid, lower trifid (Sarthothamnus)* . . . . . GEN. IV. CYTISUS  
*Ls. ternate—Cal. 5 cleft, seg. lin.* . . . . . GEN. V. ONONIS  
*Ls. pinnate—Cal. inflated, 5 cleft, including the pod (legume)* . . . . . GEN. X. ANTHYLLIS

## B. Upper stamen free, rest united (diadelphous).

## \* Leaves trifoliate.

- Racemes short—Pod slightly curved, many seeded, longer than cor., dehiscent* . . . . . GEN. VI. TRIGONELLA  
*Rac. short—Pod spiral (rarely falcate), many seeded (1 seeded in M. lupulina)* . . . . . GEN. VII. MEDICAGO  
*Rac. long, unilateral—Pod nearly straight (1-4 seeded), short, indehiscent—Keel pet. free* . . . . . GEN. VIII. MELILOTUS  
*Flowers capitate—Pod short, nearly straight (1-4 seeded)—Keel petals adnate—Cal. teeth unequal* . . . . . GEN. IX. TRIFOLIUM  
*Fl. umbellate—Pod nearly straight, lin., many seeded, exserted—Cal. teeth equal, not inflated* . . . . . GEN. XI. LOTUS

## \* \* Leaves pinnate, with terminal leaflet; not tendrilled.

- Pod. continuous, imperfectly 2 celled—Keel obtuse—Pod with lower suture inflexed* . . . . . GEN. XII. ASTRAGALUS  
*Keel beaked or with narrow incurved tip—Pod with upper suture inflexed* . . . . . GEN. XIII. OXYTROPIS  
*Flowers umbellate—Pod long, straight, 4 angled, articulated—Claw of pet. as long as calyx* . . . . . \*GEN. XIV. CORONILLA

## \* \* \* Ls. pinnate, with terminal leaflet; not tendrilled—Pod jointed.

- Fls. umbellate—Pod compressed, many jointed* . . . . . GEN. XV. ORNITHOPUS  
*Fls. umbellate—Pod of many crescent-shaped joints—Fl. yellow* . . . . . GEN. XVI. HIPPOCREPIS  
*Fls. racemcd—Pod. flat, one jointed—Fl. pink* . . . . . GEN. XVII. ONOBRYCHIS  
\* \* \* \* Ls. pinnate, without terminal leaflet (Ls. apparently single in *Lathyrus Aphaca* and *L. Nissolia*); mostly tendrilled—Pod continuous.  
*Ls. all pinnate, tendrilled—Style filiform, hairy all round, bearded below* . . . . . GEN. XVIII. VICIA  
*Ls. pinnate, or simple, mostly tendrilled—Style flattened upwards, hairy only on upper side* . . . . . GEN. XIX. LATHYRUS

## ORD. XXVI.—ROSACEÆ (p. 60).

## A. Petals present, usually conspicuous.

## \* HERBS.

## a. Sepals equal (no epicalyx).

- Pet. 5—Cal. persistent, 5 cleft—Fr. 3-12 follicles, inserted on cal. tube—Ls. compound* . . . . . GEN. II. SPIRÆA



- Pet.* 8—*Cal.* 8-10 cleft—*Sta.* many—*Fr.* of many small feathery awned achenes, enclosed in spinous turbinate receptacle—*Ls.* simp. . . . GEN. IV. DRYAS
- Pet.* 5—*Cal.* 5 cleft—*Ach.* 2—*Sta.* 12-20—*Ls.* compound . . . . GEN. IX. AGRIMONIA
- b.* Sepals with alt. smaller segments (with epicalyx).
- Pet.* 5—*Sta.* many—*Fr.* on a long, dry receptacle—*Sty.* elongating after flowering . . . . GEN. V. GEUM
- Pet.* 5—*Sta.* many—*Fr.* of many small nutlets sunk in a fleshy receptacle . . . . GEN. VI. FRAGARIA
- Pet.* 5—*Sta.* many (5 in *Pot. Sibbaldi*)—*Fr.* on a short, dry recept.—*Sty.* not elongating after flowering (in *P. palustris* the fr. is on a conical receptacle) . . . . GEN. VII. POTENTILLA
- \* \* SHRUBS OR TREES.
- a.* Styles many—Carpels free.
- Pet.* 5—*Fr.* of many succulent drupes, on a spongy, conical receptacle . . . . GEN. III. RUBUS
- Pet.* 4-5—*Fr.* of many dry ach., enclosed in the urn-shaped receptacle . . . . GEN. XI. ROSA
- b.* Styles 1-5, united.
- Pet.* 5—*Calyx* 5 cleft, deciduous—*Fr.* a fleshy drupe GEN. I. PRUNUS
- Fr.* fleshy, 2-5 celled, cells with cartilaginous walls GEN. XII. PYRUS
- Pet.* 5, large—*Sep.* large, leafy—*Fr.* turbinate, bony endocarp exposed at apex . . . . PYRUS GERMANICA
- Fr.* an oval drupe, concealing the 1-5 bony stones . GEN. XIII. CRATÆGUS
- Fr.* a drupe, with 3-5 half-exserted stones, not cohering at centre . . . . GEN. XIV. COTONEASTER
- B.* Petals 0 (very small in *Potentilla Sibbaldi*).
- Sta.* 1-4—*Cal.* 4—*Epicalyx* of 4 segments . . . GEN. VIII. ALCHEMILLA
- Cal.* of 4 petaloid lobes—*Sta.* 4-30 (*Sanguisorba*) . GEN. X. POTERIUM

ORD. XXVII.—SAXIFRAGACEÆ (p. 74).

- Pet.* 5—*Sta.* 10—*Caps.* 2 loc.—*Sty.* 2—*Herbs* . . GEN. I. SAXIFRAGA
- Pet.* 0—*Caps.* 1 loc.—*Sty.* 2—*Herbs* . . . . GEN. II. CHRYSOSPLENIUM
- Pet.* 5—*Sta.* 5—*Caps.* 1 loc.—*Stig.* 3-4—*Herb.* . GEN. III. PARNASSIA
- Pet.* 4-5—*Ovary* 1 loc., many seeded—*Fruit* a berry—*Shrubs* . . . . GEN. IV. RIBES

ORD. XXVIII.—CRASSULACEÆ (p. 78).

- Pet.*, *sep.*, and *sta.* 3-4—*Pl.* minute—*Ls.* opposite GEN. I. TILLÆA
- Pet.* 5, united at base—*Sta.* 10—*Ls.* alt., fleshy . GEN. II. COTYLEDON
- Pet.* 5, distinct (4 in *S. roseum*)—*Sta.* 10-12—*Ls.* alt. GEN. III. SEDUM
- Pet.* 6-20—*Sta.* 12-40—*Ls.* alt.—*Pl.* succulent . . \*GEN. IV. SEMPERVIVUM

ORD. XXIX.—DROSERACEÆ (p. 80).

- Scp.*, *pet.*, and *sta.* 4-8—*Ls.* covered with glandular hairs . . . . GEN. I. DROSERA

ORD. XXX.—HALORAGACEÆ (p. 80) [aquatics].

- Ls.* entire, whorled—*Sta.* 1—*Pct.* 0—*Wholly* or partly submerged . . . . GEN. I. HIPPURIS
- Ls.* entire, whorled—*Sta.* 3—*Pet.* 2-4—*Chiefly* submerged . . . . GEN. II. MYRIOPHYLLUM
- Ls.* entire, opposite—*Sta.* 1—*Perianth* 0—*Floating* or terrestrial . . . . GEN. III. CALLITRICHE
- [*Ls.* forked, whorled—*Anthers* 12-20—*Sessile* . . See CERATOPHYLLUM]

## ORD. XXXI.—LYTHRACEÆ (p. 82).

- Cal. campan.*—*Style short* . . . . . GEN. I. PEPLIS  
*Cal. cylind.*—*Style long, filiform* . . . . . GEN. II. LYTHRUM

## ORD. XXXII.—EPILOBIACEÆ (p. 82).

- Sta. 8*—*Cal. 4 cleft; segments free*—*Flowers usually pink or red* . . . . . GEN. I. EPILOBIUM  
*Sta. 4*—*Cal. 4 cleft*—*Fls. inconspicuous*—*Pl. floating* . . . . . GEN. II. LUDVIGIA  
*Sta. 8*—*Cal. 4 cleft, combined below*—*Flowers usually yellow* . . . . . \*GEN. III. ŒNOTHERA  
*Sta. 2*—*Pet. and sep. 2*—*Fl. small* . . . . . GEN. IV. CIRCÆA

## ORD. XXXIII.—CUCURBITACEÆ (p. 84).

- Diœcious*—*Cor. and cal. 5 cleft*—*Sta. 5, in 3 bundles*  
—*Tendrils climbing plant* . . . . . GEN. I. BRYONIA

## ORD. XXXIV.—UMBELLIFERÆ (p. 84).

## SEC. I.—Leaves simple.

- Ls. peltate*—*Stem creeping* . . . . . GEN. I. HYDROCOTYLE  
*Ls. lin. or ovate*—*St. erect* . . . . . GEN. VIII. BUPLEURUM

## SEC. II.—Leaves palmate.

- Ls. spiny*—*Umbels dense*—*Fr. round, scaly* . . . . . GEN. II. ERYNGIUM  
*Ls. not spiny*—*Bracts very large, often coloured*—  
*Fr. round, with dentate ribs* . . . . . \*GEN. III. ASTRANTIA  
*Ls. not spiny*—*Fr. round, with hooked spines* . . . . . GEN. IV. SANICULA

## SEC. III.—Lower leaves pinnate or ternate.

## A. Leaves all pinnate.

- General and partial involucre bracts many* . . . . . GEN. XV. SIUM  
*Involucre bracts 0* . . . . . GEN. XVII. PIMPINELLA  
MAJOR

## B. Upper leaves lobed or pinnatifid.

- Fr. laterally compressed, with blunt ridges*—*Vittæ solitary, clavate* . . . . . GEN. XIII. SISON  
*Fr. laterally compressed, with blunt ridges*—*Vittæ many* . . . . . GEN. XVII. PIMPINELLA (Sp. 2)  
*Fr. laterally compressed, with prominent ridges*—*Vittæ solitary* . . . . . APIUM NODIFLORUM  
*Fr. dorsally compressed, with even wings* . . . . . GEN. XXXV. HERACLEUM  
*Fr. dorsally compressed, winged, wings with a thick knotted border* . . . . . \*GEN. XXXVI. TORDYLIUM

## C. Ls. ternate or ternately compound.

- Calyx 0*—*Fr. orbicular*—*Carpels winged, with 3 prominent ridges*—*Vittæ many* . . . . . GEN. VII. SMYRNIUM  
*Calyx teeth leafy*—*Fr. with obscure ridges*—*Vittæ solitary* . . . . . GEN. XI. CICUTA  
*Calyx 0*—*Fr. orbicular, with 5 slender ridges*—*Vittæ 0* . . . . . GEN. XVI. ÆGOPodium  
*Calyx 0*—*Fr. with 5 prom. ridges*—*Vittæ sol.* . . . . . GEN. X. APIUM  
*Calyx of 5 teeth*—*Fr. dorsally compressed*—*Fr. with 5 primary and 4 less prominent secondary ridges* . . . . . GEN. XXVIII. SILAUS



## SEC. IV.—Leaves compound.

## A. Fruit narrow, linear, not beaked.

- Carpels acutely ribbed—Vittæ* 0 . . . . . GEN. XIX. MYRRHIS  
*Carpels obtusely ribbed—Vittæ* 1 . . . . . GEN. XX. CHÆROPHYLLUM

## B. Fruit beaked.

- Beak long* . . . . . GEN. XXI. SCANDIX  
*Beak slender, shorter than fruit* . . . . . GEN. XXII. ANTHRISCUS

## C. Fruit ovate or oblong; glabrous or hairy.

## \* Fruit short, turgid, slightly laterally compressed.

- Carpels round, with slender ridges—Vittæ solitary* GEN. V. DANAA (Physospermum)  
*Carpels with 5 thick, waved ridges—Vittæ* 0 . . . GEN. VI. CONIUM

## \* \* Fruit laterally compressed.

## a. Petals entire.

- Lfts. linear—Invol. bracts few or 0—Fl. diœcious* GEN. IX. TRINIA (Apinella)  
*Lfts. ov. or lanc.—Invol. bracts many—Fl. yell.* \* GEN. CARUM PETROSELINUM  
*Lfts. ov. lanc., or submerged, capill.—Fl. white* . . . APIUM INUNDATUM

## b. Petals emarginate.

- Vittæ solitary—Base of style depressed—Cal. marg. obsolete* . . . . . GEN. XII. CARUM  
*Vittæ solitary—Cal. margin 5 dent.* . . . . . \* GEN. XIV. FALCARIA  
*Vittæ* 0—Style long, reflexed—Cal. marg. obsolete GEN. XVI. ÆGOPodium  
*Vittæ several—Base of style conical* . . . . . GEN. XVIII. CONOPodium

## \* \* \* Fruit ovate or oblong; glabrous or hairy.

## a. Vittæ solitary.

- Fr. hairy, with thick ribs and long reflexed style* . . . GEN. XXIII. SESELI  
*Fr. oblong, with prominent obtuse ribs—Style short—Pet. ent.* . . . . . GEN. XXIV. FENICULUM  
*Fr. corky, with obtuse ridges and a long erect style* . . . GEN. XXVI. CENANTHE  
*Fr. globose, with acute ribs and a short style—Pet. obcordate* . . . . . GEN. XXVII. ÆTHUSA  
*Fr. ov. or obl.—Seed biconvex—All ridge of fr. winged* . . . . . GEN. XXXI. SELINUM

## b. Vittæ 2 or more.

- Fr. with triang. sharp ridges—Lfts. fleshy—Maritime* . . . . . GEN. XXV. CRITHMUM  
*Fr. ellip., almost winged—Pet. emarginate, yellow, appendaged at base—Leaflets lanceolate* . . . GEN. XXVIII. SILAUS  
*Fr. as Silaus—Pet. ent., ellip., with an incurved point—Lfts. capillary* . . . . . GEN. XXIX. MEUM  
*Fr. ellip., with sharp, almost winged ridges—Pet. obcord., white—Lfts. ovate* . . . . . GEN. XXX. LIGUSTICUM

## c. Vittæ 0.

- Fr. globose, with obscure ridges—Carpels scarcely separating* . . . . . GEN. XXXVII. CORIANDRUM  
 \* \* \* \* Fruit dorsally compressed.

## a. Lateral wing contiguous.

- Pet. entire (acute in P. sativum)* . . . . . GEN. XXXIV. PEUCEDANUM

## b. Lateral wing separate.

- Leaves ternately bipinnate. segments large—Interstices of carpel with solitary stripes and filiform ridges* . . . . . GEN. XXXII. ANGELICA  
*No stripes in interstice of carpel, which has thick ridges* . . . . . \* GEN. XXXIII. ARCHANGELICA

## D. Fruit prickly.

- Fruit dorsally compressed, with prominent ridges* . . . GEN. XXXVIII. DAUCUS  
*Fruit laterally compressed* . . . . . GEN. XXXIX. CAUCALIS

## ORD. XXXV.—ARALIACEÆ (p. 94).

- Climbing shrub—St. woody—Pet. and stamens 5—Ivy* . . . . . GEN. I. HEDERA



## ORD. XXXVI.—CORNACEÆ (p. 94).

*Pet., sep., and stamens 4* . . . . . GEN. I. CORNUS

## ORD. XXXVII.—CAPRIFOLIACEÆ (p. 96).

*St. herbac.—Corol. monopet.—Ls. ternately compound* . . . . . GEN. I. ADOXA

*Shrub or tree—Cor. rotate—Stig. 3, sessile—Ls. pinnate* . . . . . GEN. II. SAMBUCUS

*Shrub—Cor. rotate—Stig. 3, sessile—Ls. simple* . . . . . GEN. III. VIBURNUM

*Herbac.—Creeping—Cor. subcampan. regular—Stig. 1—Sta. 4* . . . . . GEN. IV. LINNÆA

*Shrubs—Cor. tubular, irregular—Stig. 1—Sty. filiform—Sta. 5* . . . . . GEN. V. LONICERA

## ORD. XXXVIII.—RUBIACEÆ (p. 96).

*Cal. o—Cor. rotate, 5 cleft—Fruit fleshy* . . . . . GEN. I. RUBIA

*Cal. o—Cor. rotate, 4 cleft—Fruit dry* . . . . . GEN. II. GALIUM

*Cal. o—Cor. funnel-shaped—Fruit dry* . . . . . GEN. III. ASPERULA

*Cal. teeth 4–6 (rarely obsolete)—Cor. funnel-shaped—Fruit dry* . . . . . GEN. IV. SHERARDIA

## ORD. XXXIX.—VALERIANACEÆ (p. 100).

*Sta. 3—Cor. gibbous—Fr. crowned with feathery pappus* . . . . . GEN. I. VALERIANA

*Sta. 1—Cor. spurred—Fr. crowned with feathery pappus* . . . . . \*GEN. II. KENTRANTHUS

*Sta. 3—Cor. tube obconic—Fr. crowned with unequal teeth* . . . . . GEN. III. VALERIANELLA

## ORD. XL.—DIPSACACEÆ (p. 100).

*Receptacle with exserted spiny scales—Calyx limb entire* . . . . . GEN. I. DIPSACUS

*Receptacle not spinous, the scales or hairs not exserted—Cal. limb of 4–15 bristles* . . . . . GEN. II. SCABIOSA

## ORD. XLI.—ASTERACEÆ OR COMPOSITÆ (p. 102).

SEC. I.—Flowers tubular, outer often radiant—Style not thickened below its branches—Juice watery—*Tubulifloræ*.

A. Heads with a ray of different colour to disk (except *Chrysanthemum segetum* and *Anthemis tinctoria*).

\* Pappus pilose.

*Ray florets in 1 row* . . . . . GEN. IV. ASTER

*Ray florets in several rows—Pappus hairs rigid* . . . . . GEN. V. ERIGERON

\* \* Pappus o.

*Receptacle conical, naked—Scape 1 flowered* . . . . . GEN. III. BELLIS

*Receptacle scaly* . . . . . GEN. XVI. ANTHEMIS

*Receptacle flat or convex, naked—Invol. bracts with scarious margins* . . . . . GEN. XVII. CHRYSANTHEMUM

*Receptacle conical or convex, often elongating, naked—Invol. bracts without scarious margins* . . . . . GEN. XVIII. MATRICARIA

B. Heads with ray of same colour as disk, discoid ; or with the ray revolute.

\* Pappus feathery or pilose.

a. Stems leafy.

† Heads discoid—Involucral bracts herbaceous.

*Flowers reddish purple, all tubular, funnel shaped* . . . . . GEN. I. EUPATORIUM

*Flowers yellow—Leaves linear* . . . . . ASTER LINOSYRIS

*Flowers yellow—Leaves pinnatifid* . . . . . GEN. XXV. SENECEO (in part)

- † † Heads discoid (disk florets only)—Involucral bracts dry,  
scarious—Pappus silky.
- Receptacle conical, scales few at margin—Heads  
bisexual . . . . . GEN. VI. FILAGO
- Receptacle flat, naked—Heads dioecious . . . . . GEN. VII. ANTENNARIA
- Receptacle flat, naked—Heads bisexual . . . . . GEN. VIII. GNAPHALIUM
- † † † Heads radiant.
- Involucral bracts imbricated—Anthers simple—  
Pappus hairs rigid or o . . . . . GEN. II. SOLIDAGO
- Invol. bracts imbricated—Anthers with bristles at  
base—Pappus scabrid, simple . . . . . GEN. IX. INULA
- Invol. bracts imbricated—Anthers with bristles at  
base—Pappus scabrid, with an outer row of  
short scales . . . . . GEN. X. PULICARIA
- Invol. bracts in 2 or 3 rows, equal—Style arms of  
disk fl. free—Pappus rigid . . . . . \*GEN. XXIV. DORONICUM
- Invol. bracts in 1 row, with scales at base—Style  
arms of disk fl. free—Pappus silky . . . . . GEN. XXV. SENEIO
- b. Leaves all radical, appearing after flowers—Style arms of disk  
flowers connate.
- Heads solitary, flowers yellow, outer ligulate . . . . . GEN. XXII. TUSSILAGO
- Heads many, racemed, flowers not yellow, outer  
tubular . . . . . GEN. XXIII. PETASITES
- \* \* Pappus of 2-5 rigid barbed bristles.
- Leaves opposite . . . . . GEN. XII. BIDENS
- \* \* \* Pappus of broad ciliate scales.
- Receptacle scaly . . . . . \*GEN. XIII. GALINSOGA
- \* \* \* \* Pappus o.
- Receptacle scaly—Head rayed . . . . . GEN. XIV. ACHILLEA
- Receptacle scaly—Head discoid—Plant densely  
tomentose . . . . . GEN. XV. DIOTIS
- Receptacle broad, not scaly—Fr. angular—Invol.  
bracts many—Seriata . . . . . GEN. XX. TANACETUM
- Receptacle narrow, not scaly—Fr. obovate—Invol.  
bracts few—Seriata . . . . . GEN. XXI. ARTEMISIA
- Receptacle hemispherical, naked—Fr. compressed . . . . . GEN. XIX. COTULA

SEC. II.—Flowers all tubular—Style thickened below the stigma—Involucr.  
imbricate = *Cynarocephalæ*.

\* Leaves spiny, or fringed with small prickles.

- Outer involucral bracts spinous; inner coloured,  
spreading . . . . . GEN. XXVI. CARLINA
- All invol. bracts spinous—Fr. compressed, not  
angled—Pappus hairs rough, simple . . . . . GEN. XXVIII. CARDUUS
- All invol. bracts spinous—Fr. compressed, not  
angled—Pappus hairs feathery . . . . . GEN. XXIX. CIRSIUM
- All invol. bracts spinous—Fruit angled or 4 ribbed,  
rugose . . . . . GEN. XXX. ONOPORDON
- All invol. bracts spinous—Fruit terete, rugose—  
Filaments connate . . . . . \*GEN. XXXI. SILYBUM  
(Mariana)

\* \* Leaves not spinous.

a. Involucral bracts with hooked points.

- Anther cells tailed . . . . . GEN. XXVII. ARCTIUM

b. Involucral bracts unarmed, or with straight points.

- Pappus longer than fruit—Anthers with bristles  
at base . . . . . GEN. XXXII. SAUSSUREA
- Pappus longer than fruit—Anthers simple at base . . . . . GEN. XXXIII. SERRATULA
- Pappus shorter than fruit . . . . . GEN. XXXIV. CENTAUREA



SEC. III.—Flowers all ligulate and perfect—Juice milky = *Ligulifloræ*.

\* Pappus crown-like, or of erect scales.

Flowers axillary, blue . . . . . GEN. XXXV. CICHORIUM  
 Flowers terminal yellow—Fr. crowned with a ring . . . . . GEN. XXXVI. ARNOSERIS

\* \* Pappus o.

Fruit obtuse . . . . . GEN. XXXVII. LAPSANA

\* \* \* Pappus feathery, especially of the centre florets.

a. Receptacle naked.

Involucre simple, with unequal linear, or leafy  
 bracts—Fr. contracted at both ends . . . . . GEN. XXXVIII. PICRIS

Involucre imbricate . . . . . GEN. XLII. LEONTODON

Involucre simple, or of 8–10 connected scales—Fr.  
 slender, curved, beak long . . . . . GEN. XLVI. TRAGOPOGON

b. Receptacle chaffy.

. . . . . GEN. XLI. HYPOCHÆRIS

\* \* \* \* Pappus pilose, filiform.

a. Hairs of pappus silvery (except *Crepis paludosa* and *Lactuca alpina*).

† Fruit beaked.

Stem leafless—Fr. suddenly contracted and muri-  
 cate above . . . . . GEN. XLIII. TARAXACUM

Stem leafy—Fruit compressed (*L. alpina* has brown  
 pappus) . . . . . GEN. XLIV. LACTUCA

Stem leafy—Fruit terete (*Barkhausia*) . . . . . GEN. XXXIX. CREPIS (in part)

† † Fruit not beaked.

Fruit terete . . . . . GEN. XXXIX. CREPIS

Fruit compressed . . . . . GEN. XLV. SONCHUS

b. Hairs of pappus rigid, turning brown.

Fruit terete—Fl. yellow . . . . . GEN. XL. HIERACIUM

SEC. IV.—Heads monœcious = *Ambrosiæ*.

Male invol. many leaved, fem. invol. 1 leaved, 2  
 fld., at length indurated—Fl. tubular . . . . . \*GEN. XI. XANTHIUM

## ORD. XLII.—CAMPANULACEÆ (p. 120).

Corolla irregular—Anthers cohering in a tube . . . . . GEN. I. LOBELIA

Corolla regular, rotate, segm. linear—Anth.  
 distinct—Fls. capitate . . . . . GEN. II. JASIONE

Cor. reg., campan. 5 lobed; lobes broad—Caps.  
 dehiscing within cal. lobes . . . . . GEN. III. WAHLENBERGIA  
 (Cervicina)

Cor. reg., 5 partite, segm. narr.—Fl. capitate—  
 Caps. dehiscing below cal. lobes . . . . . GEN. IV. PHYTEUMA

Cor. reg., 5 toothed or lobed—Ovary short, broad  
 —Caps. dehiscing as in IV. . . . . GEN. V. CAMPANULA

Cor. reg., rotate or campan.—Ovary long, narrow  
 —Caps. dehiscing as in IV. . . . . GEN. VI. LEGOUSIA (Specularia)

## ORD. XLIII.—VACCINIACEÆ (p. 122).

Corolla campanulate or urceolate . . . . . GEN. I. VACCINIUM

Corolla rotate . . . . . GEN. II. OXYCOCCUS

## ORD. XLIV.—ERICACEÆ (p. 124).

\* Shrubs.

a. Fruit, a fleshy berry or drupe.

Cells many seeded—A small tree—Fruit globose,  
 rough . . . . . GEN. I. ARBUTUS

Cells 1 seeded—Small, prostrate shrub—Fr. smooth . . . . . GEN. II. ARCTOSTAPHYLOS



b. Fruit dry.

- Corolla deciduous, ovate—Sta. 10* . . . . . GEN. III. ANDROMEDA  
*Corolla persistent, 4 partite—Calyx double—Caps.*  
*loculicidal, each loc. many seeded* . . . . . GEN. IV. CALLUNA  
*Corolla persistent, 4 fid.—Calyx simp., 4 part.—*  
*Caps. septicidal, each loc. few seeded* . . . . . GEN. V. ERICA  
*Corolla deciduous, campanulate—Anth. 5, opening*  
*by slits* . . . . . GEN. VI. LOISELEURIA  
(Azalea)  
*Corolla deciduous, ventricose—Anth. 10, opening*  
*by pores* . . . . . GEN. VII. BRYANTHUS  
(Menziesia)  
*Corolla deciduous, urceolate—Anth. 8, opening by*  
*pores* . . . . . GEN. VIII. DABŒCIA (Boretta)  
*Cor. pentapet.—Anth. opening by pores* . . . . . \*GEN. IX. LEDUM  
\* \* Herbs.  
*Fl. racemose—Calyx green—Style 5 lobed—Pet. 5*  
*concave, free—Ls. chiefly radical* . . . . . GEN. X. PYROLA  
*Fl. sol., slightly adhering at base, spreading* . . . . . GEN. XI. MONESES

ORD. XLV.—MONOTROPACEÆ (p. 126).

- Calyx coloured—Style simp., peltate—A fleshy*  
*saprophyte* . . . . . GEN. I. HYPOPITYS

ORD. XLVI.—PLUMBAGINACEÆ (p. 126).

- Flowers in paniced unilateral cymes* . . . . . GEN. I. LIMONIUM  
*Flowers in a bracteate head* . . . . . GEN. II. STATICE  
(Armeria)

ORD. XLVII.—PRIMULACEÆ (p. 128).

\* Capsule valvular.

- Aquatic—Leaves pectinate—Cor. salver shaped* . . . . . GEN. I. HOTTONIA  
*Leaves all radical—Cor. salver shaped, with*  
*spreading lobes* . . . . . GEN. II. PRIMULA  
*Leaves all radical—Limb of cor. reflexed—Hilum*  
*as II.* . . . . . \*GEN. III. CYCLAMEN  
*Leaves cauline—Cor. rotate, yellow—Cal. 5 partite*  
*—Caps. opening at summit* . . . . . GEN. IV. LYSIMACHIA  
*Leaves cauline—Cor. rotate, white—Cal. 7 partite* . . . . . GEN. V. TRIENTALIS  
*Leaves cauline—Cor. o—Cal. tubular, coloured* . . . . . GEN. VI. GLAUX  
*Leaves chiefly radical—Cor. salver shaped, tube*  
*short—Cal. 5 part.—Fl. white* . . . . . GEN. IX. SAMOLUS  
\* \* Capsule opening transversely.  
*Cor. rotate, tube o—Cal. 5 part.—Filaments hairy* . . . . . GEN. VII. ANAGALLIS  
*Cor. with a sub-globose tube—Cal. 4 partite—Fila-*  
*ments glabrous* . . . . . GEN. VIII. CENTUNCULUS

ORD. XLVIII.—OLEACEÆ (p. 130).

- Tree—Fruit winged (samara), dry—Cor. o* . . . . . GEN. I. FRAXINUS  
*Shrub—Fruit a fleshy berry—Cor. funnel shaped* . . . . . GEN. II. LIGUSTRUM

ORD. XLIX.—APOCYNACEÆ (p. 130).

- Cor. salver shaped; tube long—Cal. 5 partite* . . . . . GEN. I. VINCA

ORD. L.—GENTIANACEÆ (p. 130).

\* Leaves opposite.

- Cor. funnel shaped, yellow—Sta. 4—Stig. 1 entire,*  
*peltate* . . . . . GEN. I. MICROCALA

- Cor. rotate, yellow—Sta. 6-8—Leaves perfoliate* . GEN. II. BLACKSTONIA  
(Chlora)
- Cor. funnel shaped, pink—Sta. 5—Stig. 2—Anthers  
twisted* . . . . . GEN. III. CENTAURIUM  
(Erythræa)
- Cor. salver shaped, whitish pink—Sta. 4—Stig. 2* GEN. IV. CICENDIA  
(Exacum)
- Cor. tube sub-clavate, limb salver shaped—Anth.  
straight—Stig. 2* . . . . . GEN. V. GENTIANA  
\* \* Leaves alternate.
- Leaves trifoliate—Fl. whitish* . . . . . GEN. VI. MENYANTHES
- Leaves orbicular, floating—Fl. yellow* . . . . . GEN. VII. LIMNANTHEMUM

## ORD. LI.—POLEMONIACEÆ (p. 134).

- Cor. rotate ; tube short—Cal. 5 cleft* . . . . . GEN. I. POLEMONIUM

## ORD. LII.—BORAGINACEÆ (p. 134).

## A. Throat of corolla closed with scales.

## \* Stamens included.

## a. Nuts attached to the elevated, persistent base of style.

- Cal. 5 cleft—Fl. blue* . . . . . GEN. I. OMPHALODES

- Cal. equally 5 cleft—Fl. purplish* . . . . . GEN. II. CYNOGLOSSUM

- Cal. 5 cleft, with intermediate teeth—Fl. blue* . . \*GEN. IX. ASPERUGO

## b. Nuts attached to a disk below the style.

- Cor. with distinct tube, lobes rounded—Fruit with  
hooked bristles—Style very short* . . . . . \*GEN. III. LAPPULA  
(Echinospermum)

- Cor. campanulate, its tube short, straight* . . . . . GEN. IV. SYMPHYTUM

- Cor. funnel shaped, its tube straight* . . . . . GEN. VI. ANCHUSA

- Cor. funnel shaped, its tube curved* . . . . . GEN. VII. LYCOPSIS

- Cor. salver shaped, twisted in æstivation* . . . . . GEN. XI. MYOSOTIS

## \* \* Stamens exserted.

- Corolla rotate* . . . . . \*GEN. V. BORAGO

## B. Throat of corolla naked.

- Cor. regular—Cal. tubular, 5 fid, the tube long—  
Sta. included* . . . . . GEN. VIII. PULMONARIA

- Cor. regular—Sta. protruded—Cal. tube short* . . . . . GEN. X. MERTENSIA  
(Pneumaria)

- Cor. regular—Cal. short, in 5 deep segm., the tube  
short or o—Sta. included* . . . . . GEN. XII. LITHOSPERMUM

- Cor. irregular—Sta. exserted* . . . . . GEN. XIII. ECHIUM

## ORD. LIII.—CONVOLVULACEÆ (p. 138).

## A. Leafy plants.

- Bracts 2, large, enclosing the calyx—Stig. broad* . . . . . GEN. I. CALYSTEGIA  
(Volvulus)

- Bracts minute, distant from flower—Stig. slender* . . . . . GEN. II. CONVOLVULUS

## B. Saprophytic leafless plant.

- Annual, twining, parasites* . . . . . GEN. III. CUSCUTA

## ORD. LIV.—SOLANACEÆ (p. 138).

- Cor. rotate ; segm. reflexed—Anth. opening by  
terminal pores—Fr. a berry* . . . . . GEN. I. SOLANUM

- Cal. urceolate—Cor. salver shaped—Fr. berry like  
—Shrub* . . . . . \*GEN. II. LYCIUM

- Cor. campanulate—Anthers not opening by pores  
—Fr. a black berry* . . . . . GEN. III. ATROPA

- Cor. funnel shaped, 5 lobed—Caps. 4 valved, spiny* \*GEN. IV. DATURA

- Cor. funnel shaped—Caps. (pyxis) 2 loc., dry,  
opening by a lid* . . . . . GEN. V. HYOSCYAMUS



ORD. LV.—SCROPHULARIACEÆ (p. 140).

A. Stamens 5.

*Corolla rotate—Leaves alternate* . . . . . GEN. I. VERBASCUM

B. Stamens 4.

\* Calyx 5 cleft.

a. Calyx tubular.

*Corolla personate, spurred at base—Caps. opening by pores* . . . . . GEN. II. LINARIA

*Cor. personate, saccate at base, not spurred—Caps. opening by pores* . . . . . GEN. III. ANTIRRHINUM

*Cor. globose, not spurred or saccate—Caps. 2-4 valved* . . . . . GEN. IV. SCROPHULARIA

*Cor. ringent, upper lip with reflexed sides—Caps. 2 valved* . . . . . \*GEN. V. MIMULUS

*Cor. campanulate, 5 cleft, equal—Anth. 1 celled—Ls. narrow* . . . . . GEN. VI. LIMOSELLA

*Cor. rotate, equal—Anth. 2 celled—Ls. orbicular* . . . . . GEN. VII. SIBTHORPIA

*Cor. campanulate or tubular, unequal—(Stu. sometimes 2)* . . . . . GEN. VIII. DIGITALIS

*Cal. in 5 deep segm.—Cor. 5 part., somewhat unequal, salver shaped, tube short* . . . . . \*GEN. IX. ERINUS

b. Calyx inflated.

*Leaves alternate—Caps. acute—Seeds many, not winged* . . . . . GEN. XIII. PEDICULARIS

\* \* Calyx 4 cleft.

*Upper lip of cor. bifid, not flattened—Seeds not winged* . . . . . GEN. XI. EUPHRASIA

*Upper lip of cor. entire, not flattened—Seeds not winged* . . . . . GEN. XII. BARTSIA

*Upper lip of cor. flattened—Cal. inflated—Seeds winged* . . . . . GEN. XIV. RHINANTHUS

*Upper lip of cor. flattened—Cal. tubular—Ls. oppos.—Seeds not winged* . . . . . GEN. XV. MELAMPYRUM

C. Stamens 2.

*Cor. almost regular—Ls. opposite* . . . . . GEN. X. VERONICA

ORD. LVI.—OROBANCHACEÆ (p. 148).

*Cor. ringent, 4-5 cleft—Sep. 2* . . . . . GEN. I. OROBANCHE

*Cor. 2 lipped—Cal. campan. 4 cleft—Rootstock fleshy, with thick scales* . . . . . GEN. II. LATHRÆA

ORD. LVII.—LENTIBULARIACEÆ (p. 148).

*Aquatic—Leaves multifid—Fl. yellow* . . . . . GEN. I. UTRICULARIA

*Terrestrial—Leaves entire—Fl. blue or pinkish* . . . . . GEN. II. PINGUICULA

ORD. LVIII.—VERBENACEÆ (p. 150).

*Corolla irregular, salver shaped—Calyx 5 partite* . . . . . GEN. I. VERBENA

ORD. LIX.—LAMIACEÆ (p. 150).

A. Stamens 4, almost equal.

*Cor. 4-5 cleft, nearly equal* . . . . . GEN. I. MENTHA

*Cor. 2 lipped—Cal. equally 5 toothed—Ls. broad* . . . . . GEN. III. ORIGANUM

*Cor. 2 lipped—Cal. 2 lipped—Ls. small* . . . . . GEN. IV. THYMUS

B. Stamens 2.

*Corolla equally 4 cleft—Cal. 5 cleft* . . . . . GEN. II. LYCOPUS

*Corolla and calyx 2 lipped* . . . . . GEN. VII. SALVIA



C. Stamens 4, 2 long, 2 short = didynamous.

\* Upper lip of cor. longer than stamens.

a. Calyx obviously 2 lipped.

† Stamens remote at base, conniving under the upper lip.

*Upper lip of cor. flat; its tube straight—Whorls*

*many, lax fld., bracts minute* . . . . . GEN. V. SATUREIA  
(Calamintha)

*Upper lip of cor. flat; its tube straight—Whorls*

*few, dense fld.—Bracts linear* . . . . . SAT. VULGARIS = CLINOPODIUM  
VULGARE L.

*Upper lip of cor. concave; its tube curved, ascending*

† † Stamens parallel. \*GEN. VI. MELISSA

*Calyx ovate, closed in fruit; lips entire—Fila-*  
*ments simple* . . . . . GEN. IX. SCUTELLARIA

*Calyx ovate, closed in fruit; upper lip trifid,*  
*lower bifid—Filament bifid* . . . . . GEN. X. PRUNELLA

*Calyx campanulate, open in fr.—Anthers exerted* GEN. XI. MELITTIS

b. Calyx 5 toothed.

† Two upper stamens the longest.

*Upper lip of corolla truncate* . . . . . GEN. VIII. NEPETA

† † Lower stamens the longest.

*Calyx 10 ribbed—Lr. lip of cor. with lateral lobes*  
*reflexed—Anthers glabrous* . . . . . GEN. XIII. STACHYS

*Cal. campanulate, spinous—Lr. lip of cor. with 3*  
*unequal lobes and 2 teeth on the upper side—*

*Anthers ciliate* . . . . . GEN. XIV. GALEOPSIS

*Cal. tubular, spinous—Upper lip of cor. flat; lower*  
*with 3 blunt lobes—Nutlets triquetrous* . . . . . \*GEN. XV. LEONURUS

*Cal. campan. 10 ribbed—Lr. lip of cor. entire,*  
*with 1 or 2 small teeth on each side—Anthers*  
*hairy* . . . . . GEN. XVI. LAMIUM

*Cal. funnel shaped, 10 ribbed—Lr. lip of cor. trifid;*  
*middle segm. largest—Anthers glabrous* . . . . . GEN. XVII. BALLOTA

c. Calyx 10 toothed.

*Two lower stamens the longest—Cal. tubular—*

*Anth. included* . . . . . GEN. XII. MARRUBIUM

\* \* Upper lip of corolla minute or 0—Nutlets connate—(In the  
previous genera the nutlets are free).

*Upper lip of cor. deeply cleft* . . . . . GEN. XVIII. TEUCRIUM

*Upper lip of cor. entire, or slightly notched* . . . . . GEN. XIX. AJUGA

#### ORD. LX.—PLANTAGINACEÆ (p. 160).

*Terrestrial—Fls. (perfect) in spikes* . . . . . GEN. I. PLANTAGO

*Aquatic—Fls. (monœcious) solitary* . . . . . GEN. II. LITTORELLA

#### ORD. LXI.—ILLECEBRACEÆ (p. 160).

*Leaves opposite—Pet. 0, or only like small scales—*

*Sep. white, with long points* . . . . . GEN. I. ILLECEBRUM

*Ls. opposite, not connate—Pet. filiform—Stig. 2,*  
*sessile—Sep. green, obtuse* . . . . . GEN. II. HERNIARIA

*Ls. alt.—Pet. obl., as long as sepals—Pet. 5—*  
*Stig. 3* . . . . . GEN. III. CORRIGIOLA

*Ls. opp., connate at base—Pet. 0—Sep. 5—Sta. 10*  
*—Stig. 2* . . . . . GEN. IV. SCLERANTHUS

#### ORD. LXII.—AMARANTACEÆ (p. 162).

*Fl. monœcious—Sta. 3-5—Stig. 3—Caps. 1 celled,*

*1 seeded* . . . . . \*GEN. I. AMARANTHUS

## ORD. LXIII.—CHENOPODIACEÆ (p. 162).

A. Flowers perfect.

\* Stem not jointed.

† Leaves flat.

*Pericarp free—Testa crustaceous* . . . . . GEN. I. CHENOPODIUM*Pericarp adhering to perianth—Testa thin* . . . . . GEN. II. BETA

† † Leaves semi-cylindrical.

*Leaves not spinous—Sep. not winged at back* . . . . . GEN. V. SUAEDA  
(Dondia)*Leaves spinous—Sep. transversely winged when  
mature* . . . . . GEN. VI. SALSOLA

\* \* Stem jointed.

*Stem leafless* . . . . . GEN. IV. SALICORNIA

B. Flowers imperfect (monœcious).

*Stem leafy—Male fl. 3-5 sep.; female 2 sepals* . . . . . GEN. III. ATRIPLIX

## ORD. LXIV.—POLYGONACEÆ (p. 156).

*Perianth 5 part.; segments subequal—Fr. wingless*—*Fl. racemose* . . . . . GEN. I. POLYGONUM*Like Polygonum, but flowers in cymose heads* . . . . . \*GEN. II. FAGOPYRUM*Perianth 6 part.; 3 inner segm. large* . . . . . GEN. III. RUMEX*Perianth 4 part.; 2 inner segm. large—Fr. winged* . . . . . GEN. IV. OXYRIA

## ORD. LXV.—ARISTOLOCHIACEÆ (p. 170).

*A low herb—Sta. 12—Per. camp. regularly 3 cleft* . . . . . GEN. I. ASARUM*Stem erect—Sta. 6—Per. tubular, mouth oblique* . . . . . \*GEN. II. ARISTOLOCHIA

## ORD. LXVI.—THYMELÆACEÆ (p. 170).

*Perianth 4 part., deciduous—Stamens 8—Shrubs* . . . . . GEN. I. DAPHNE

## ORD. LXVII.—ELÆAGNACEÆ (p. 170).

*Diœcious—Perianth of 2 leaves, adhering at apex*—*A willow-like shrub* . . . . . GEN. I. HIPPOPHAE

## ORD. LXVIII.—LORANTHACEÆ (p. 170).

*Diœcious—Pet. 4, fleshy—A green-leaved, white-**berried parasite* . . . . . GEN. I. VISCUM

## ORD. LXIX.—SANTALACEÆ (p. 170).

*Cor. minute funnel shaped—Sta. 5—A small pros-**trate, green-leaved root parasite* . . . . . GEN. I. THESIUM

## ORD. LXX.—EUPHORBIACEÆ (p. 172).

*Stamens many, with 1 pistil enclosed in a calyx-**like involucre of bracts—Milky juice* . . . . . GEN. I. EUPHORBIA*Evergreen glossy-leaved shrub—Fls. distinct—Pet.**and sep. present—Sta. 4—Ovules 2 in each loc.* . . . . . GEN. II. BUXUS*Herbaceous—Perianth 3 partite—Sta. 9-16—**Ovules 1 in each loc.* . . . . . GEN. III. MERCURIALIS

## ORD. LXXI.—ULMACEÆ (p. 174).

*Trees—Perianth 4-5 part.—Sta. 5* . . . . . GEN. I. ULMUS



## ORD. LXXII.—URTICACEÆ (p. 174).

- Climbing—Sta. 5—Flowers diœcious in catkin* . . GEN. I. HUMULUS  
*Herbaceous—Fl. diœcious in rac.—Sta. 5—*  
*Perianth 5 part.—Fem. perigon. 1 leaved* . . \*GEN. II. CANNABIS  
*Herbaceous stinging plants—Sta. 4—Perianth 4*  
*part.—Fem. perianth 2 part.—Fls. (monœcious*  
*or diœcious) in racemes* . . . . . GEN. III. URTICA  
*Herbaceous not stinging—Sta. 4—Fls. (poly-*  
*gamous) in axillary clusters, surrounded by*  
*involucre* . . . . . GEN. IV. PARIETARIA

## ORD. LXXIII.—MYRICACEÆ (p. 174).

- A low fragrant shrub—Sta. 4-8—Scales of catkin*  
*concave—Fr. drupaceous, 1 celled, 1 seeded* . GEN. I. MYRICA

## ORD. LXXIV.—AMENTACEÆ (p. 176).

- \* Male flowers in long catkins.  
*Achenes winged—Scales of fem. catkin thin,*  
*deciduous* . . . . . GEN. I. BETULA  
*Sta. 4—Achenes not winged—Fem. catkin small,*  
*ovoid—Scales woody, persistent* . . . . . GEN. II. ALNUS  
*Stig. 2—Scales of male catkin 3 cleft—Invol.*  
*leafy, 3 lobed* . . . . . GEN. III. CARPINUS  
*Stig. 2—Scales of male catkin roundish—Invol.*  
*leafy* . . . . . GEN. IV. CORYLUS  
*Stig. 3—Invol. entire (a cupule), not spiny nor*  
*leafy—Male catk. slender* . . . . . GEN. V. QUERCUS  
*Stig. 5-8—Invol. of 4 valves, spinous* . . . . . \*GEN. VI. CASTANEA  
 \* \* Male flowers in a globose catkin.  
*Stig. 3—Invol. prickly, completely enclosing the*  
*triang. nut* . . . . . GEN. VII. FAGUS

## ORD. LXXV.—SALICACEÆ (p. 176).

- Sta. 1-5—Scales of catkin entire—Catk. usually*  
*erect* . . . . . GEN. I. SALIX  
*Sta. 4-30—Scales of catkin jagged—Catk. drooping* GEN. II. POPULUS

## ORD. LXXVI.—EMPETRACEÆ (p. 182).

- Pet. 3 part.—Cal. 3 part.—Sta. 3—Drupe small,*  
*black* . . . . . GEN. I. EMPETRUM

## ORD. LXXVII.—CERATOPHYLLACEÆ (p. 182).

- Aquatic—Leaves forked, whorled—Anth. 12-20*  
*sessile—Perianth 0* . . . . . GEN. I. CERATOPHYLLUM

## ORD. LXXVIII.—HYDROCHARIDACEÆ (p. 182).

- Leaves linear, opposite or whorled, submerged—*  
*Flowers inconspicuous* . . . . . \*GEN. I. ELODEA  
*Leaves reniform, floating—Flowers large* . . . GEN. II. HYDROCHARIS  
*Leaves ensiform, prickly, submerged—Flowers*  
*large, white* . . . . . GEN. III. STRATIOTES



## ORD. LXXIX.—ORCHIDACEÆ (p. 182).

A. Plants with green leaves.

\* Anther 1.

a. Lip not spurred.

† Lip entire at apex.

*Lip superior—Column short* . . . . . GEN. I. MALAXIS*Lip inferior—Pet. and sep. spreading—Column slender* . . . . . GEN. II. LIPARIS*Lip inferior, with fleshy projections at base joined to base of column—2 lateral sepals coloured, erect—Flowers arranged spirally on peduncle* . . . . . GEN. VI. SPIRANTHES*Lip inferior, saccate at base, free from column—2 lat. sepals herbaceous, spreading—(Epipactis)* . . . . . GEN. VII. GOODYERA

† † Lip lobed or notched at apex.

§ Lip not divided transversely.

*Pet. and sep. spreading; lip linear, free, 2 lobed at apex—Pollen grains glandular—Leaves usually 2 only sub-opposite* . . . . . GEN. V. LISTERA*Pet. and sep. forming a hood; lip pendant, 3 lobed—Pollen glands in a common pouch* . . . . . GEN. XII. ACERAS*Pet. and sep. spreading; lip variously lobed, mostly tumid—Pollen gland in 2 distinct pouches* . . . . . GEN. XIII. OPHRYS*Pet. and sep. spreading; lip petaloid—Pollen gland naked* . . . . . GEN. XIV. HERMINIUM

§ § Lip divided transversely—Beak of style very short.

*Flowers erect, spicate; ovary twisted* . . . . . GEN. IX. CEPHALANTHERA*Flowers racemose, more or less drooping; ovary straight* . . . . . GEN. X. HELLEBORINE (Epipactis)

b. Lip spurred.

*Both glands in one pouch* . . . . . GEN. XI. ORCHIS*Glands naked* . . . . . GEN. XV. HABENARIA

\* \* Anthers 2.

*Lip slipper shaped* . . . . . GEN. XVI. CYPRIPIEDUM

B. Leafless saprophytes.

*Lip inferior, white with purplish blotches—Spur 0—Perianth converging* . . . . . GEN. III. CORALLORRHIZA*Lip decurved, yellowish brown, 2 lobed, gibbous at base—Spur 0—Perianth hooded* . . . . . GEN. IV. NEOTTIA*Lip superior, ovary not twisted—Perianth patent* . . . . . GEN. VIII. EPIPOGIUM

## ORD. LXXX.—IRIDACEÆ (p. 190).

A. Segments of perianth unequal.

*Alternate segm. of perianth reflexed—Perianth regular—Stig. 3 petaloid—Ovary 3-loc.* . . . . . GEN. I. IRIS*Like Iris, but ovary 1-loc. and rootstock digitate* . . . . . \* GEN. II. HERMODACTYLUS*Perianth almost labiate—Flowers rose pink* . . . . . GEN. VI. GLADIOLUS

B. Segm. of perianth equal.

*Perianth tube short—Styles 3 bifid; lobes slender* . . . . . GEN. IV. ROMULEA*Perianth tube short—Styles 3, entire, filiform* . . . . . GEN. V. SISYRINCHIUM*Perianth tube long* . . . . . GEN. III. CROCUS

## ORD. LXXXI.—AMARYLLIDACEÆ (p. 190).

*Perianth with a bell-shaped crown within* . . . . . GEN. I. NARCISSUS*Perianth without a crown; segments unequal, outer largest* . . . . . GEN. II. GALANTHUS*Perianth without a crown; segments equal* . . . . . GEN. III. LEUCOJUM

## ORD. LXXXII.—DIOSCOREACEÆ (p. 192).

*Stem twining to left—Diœcious—Perianth small  
bell shaped, herbaceous* . . . . . GEN. I. TAMUS

## ORD. LXXXIII.—LILIACEÆ (p. 192).

A. Fruit a berry—Anthers bursting inwards.

\* Stem branched.

*Stem shrubby, with spinous leaf-like cladodes, on  
which are the diœcious fls.—Filam. 3 connate* GEN. I. RUSCUS

*Stem herbaceous—Fls. axillary—Filam. 6 free* . GEN. II. ASPARAGUS

\* \* Stem simple.

*St. many leaved—Perianth cylindrical, 6 cleft—  
Fls. axillary* . . . . . GEN. III. POLYGONATUM

*St. with 2 leaves—Perianth 4 partite—Fls. in term.  
racemes* . . . . . GEN. IV. MAIANTHEMUM  
(Unifolium)

*Ls. radical—Perianth sub-globose—Fls. racemose* GEN. V. CONVALLARIA

B. Fruit dry—Anthers bursting inwards.

\* Flowers on a leafless scape.

a. Segments of perianth free.

† Flowers racemed or paniced.

*Fls. jointed on their pedicels, white inside, purple  
without—Rootstock bulbous* . . . . . GEN. VI. SIMETHIS (Pubilaria)

*Fls. blue or pink, of 6 segm.—Fls. 1 bracteate* . . GEN. IX. SCILLA

*Fls. white, or greenish white, of 6 segm.—Fls.  
1 bracteate* . . . . . GEN. X. ORNITHOGALUM

† † Flowers capitate or umbellate.

*Fls. enclosed in a 1-2 leaved spathe* . . . . . GEN. VII. ALLIUM

*Fls. (yellow) enclosed in 1-2 linear leaves* . . . GEN. XIV. GAGEA

b Segments of perianth cohering at base.

*Perianth globose, contracted at mouth* . . . . . GEN. VIII. MUSCARI

*Perianth campanulate, segments reflexed* . . . SCILLA NON-SCRIPTA  
(Hyacinthus)

\* \* Flowers on leafy scape.

*Flowers drooping, paniced—Nectary o* . . . . . GEN. XI. LILIUM

*Flowers drooping, sub-solitary, large dull red,  
chequered—Nectary oblong* . . . . . GEN. XII. FRITILLARIA

*Flowers erect, solitary, yellow* . . . . . GEN. XIII. TULIPA

*Flowers erect, few sm., white—Nectary transverse* GEN. XV. LLOYDIA

C. Anthers bursting outwards (*Melanthaceæ*).

\* Root a solid tuber (corm).

*Fl. crocus-like, funnel shaped, tube long, appearing  
in autumn—Ls. vernal, radical* . . . . . GEN. XVI. COLCHICUM

\* \* Rhizome slender, creeping.

*Fl. yellow, 6 part.—Caps. 3 loc., loculicidal—  
Scape leafy* . . . . . GEN. XVII. NARTHECIUM

*Fl. greenish white, 6 part.—Scape leafy—Caps. 1  
celled—Septicidal* . . . . . GEN. XVIII. TOFIELDIA

D. Leaves net veined—Fr. a berry—Rhizome stout.

*Leaves whorled, normally 4—Fls. terminal, pe-  
rianth usually 2 whorls in 4—Style 4; ovary  
4-5 lobed* . . . . . GEN. XIX. PARIS

## ORD. LXXXIV.—JUNCACEÆ (p. 198).

*Glabrous—Ls. usually terete—Capsule 3 loc.,  
many seeded* . . . . . GEN. I. JUNCUS

*More or less hairy—Ls. flat—Caps. 1 loc., 3  
seeded.* . . . . . GEN. II. LUZULA (Juncoides)



## ORD. LXXXV.—TYPHACEÆ (p. 202).

- Fls. in dense cylindrical spikes* . . . . . GEN. I. TYPHA  
*Fls. in globular heads* . . . . . GEN. II. SPARGANIUM

## ORD. LXXXVI.—ARACEÆ (p. 202).

- Leaves hastate—Flowers monœcious in a spathe—*  
*Perianth* o . . . . . GEN. I. ARUM  
*Leaves ensiform—Flowers perfect on a sessile*  
*spadix—Peri. segm. free* . . . . . GEN. II. ACORUS

## ORD. LXXXVII.—LEMNACEÆ (p. 204).

- Plant with hair-like roots* . . . . . GEN. I. LEMNA  
*Plant without roots* . . . . . GEN. II. WOLFFIA

## ORD. LXXXVIII.—ALISMACEÆ (p. 204).

\* Leaves flat—Flowers large—Per. green ; ovules solitary.

- Sta. 6—Carpels many, free—Flowers bisexual,*  
*whorled—Leaves erect* . . . . . GEN. I. ALISMA  
*Sta. 6—Carp. many, free—Flowers bisexual, um-*  
*bellèd or whorled* . . . . . GEN. II. ECHINODORUS  
*Sta. 6—Carp. many, free—Flowers bisexual, sub-*  
*solitary—Leaves floating.* . . . . GEN. III. ELISMA  
*Sta. many—Carp. free—Ls. erect—Fls. unisexual* GEN. IV. SAGITTARIA  
*Sta. 6—Carpels connate at base, spreading star-*  
*like—Fl. bisexual* . . . . . GEN. V. DAMASONIUM

\* \* Leaves triquetrous—Per. coloured—Ovules numerous.

- Fls. rose red—Stamens 9* . . . . . GEN. VI. BUTOMUS

## ORD. LXXXIX.—NAIADACEÆ (p. 206).

\* Erect marsh herbs, with rush-like leaves.

- Segm. of perianth erect—Fls. ebracteate* . . . . GEN. I. TRIGLOCHIN  
*Segm. of perianth spreading—Fls. bracteate* . . GEN. II. SCHEUCHZERIA

\* \* Aquatic herbs, with floating or submerged leaves.

† Flowers perfect.

- Perianth segm. 4—Achenes sessile* . . . . . GEN. III. POTAMOGETON  
*Perianth segm. o—Achenes stalked.* . . . . GEN. IV. RUPPIA

† † Flowers imperfect.

- Fls. axill., sol.—Stigma 1, peltate—Perianth o* . GEN. V. ZANNICHELLIA  
*Fls. (apparently) in a slit of the leaf (marine)—*  
*Perianth o* . . . . . GEN. VI. ZOSTERA  
*Fls. axillary, sol.—Stigmas 2-4, persistent—Peri-*  
*anth tubular* . . . . . GEN. VII. NAIAS

## ORD. XC.—ERIOCAULONACEÆ (p. 212).

- Perianth 4-6 part. ; inner segm. united to summit,*  
*minute—Sta. 4-6—Ls. radical.* . . . . GEN. I. ERIOCAULON

## ORD. XCI.—CYPERACEÆ (p. 212).

A. Flowers perfect.

\* Glumes 2 ranked.

- Spikelets many flowered—Glumes all fertile—Fr.*  
*chestnut-brown* . . . . . GEN. I. CYPERUS  
*Spikelets few flowered—Lower glume barren—Fr.*  
*black* . . . . . GEN. VI. SCHOENUS



\* \* Glumes imbricated.

a. Bristles included in glumes or o.

- Spikelet 1, terminal, terete* . . . . . GEN. II. ELEOCHARIS  
*Spikelets usually fascicled, lateral* . . . . . GEN. III. SCIRPUS  
*Spikelets terete in an ovate head, enclosed in a leafy bract—Nut beaked* . . . . . GEN. V. RYNCHOSPORA  
*Spikelets terete in many, crowded, compound cymes—Lr. glumes small, empty—Bristle o—Plant 4-6 feet—Nut obtuse* . . . . . GEN. VII. CLADIUM

b. Bristles much longer than glumes.

- Bristles eventually silky* . . . . . GEN. IV. ERIOPHORUM

B. Flowers imperfect.

- Fruit not enclosed in the perigynium—Spikelets 1-2 fld.* . . . . . GEN. VIII. KOBRESIA  
*Fruit enclosed in the perigynium—Spikelets many fld.* . . . . . GEN. IX. CAREX

## ORD. XCII.—GRAMINACEÆ (p. 228).

SEC. I.—Spikelets sessile, on a toothed or jointed rachis (compound spike).

A. Spike compound.

- Spikes spreading—Spikelets dorsally compressed—Glumes 4, unequal* . . . . . GEN. I. PANICUM  
*Spikes upright—Glumes 3* . . . . . GEN. III. SPARTINA  
*Spikes spreading—Spikelets laterally compressed, 1-2 seriate—Glumes equal* . . . . . GEN. XXVII. CYNODON (Capriola)

B. Spike simple.

- Spikelets solitary, unilateral, 1 flowered—Palea scarious, shaggy, truncate* . . . . . GEN. XI. MIBORA (Knappia)  
*Spikelets sol., sub-sess., broadside to rachis—Glumes unequal, smaller than outer paleæ—Ovary tip villous* . . . . . GEN. XLIII. BRACHYPODIUM  
*Spikelets sol., edgewise to rachis, many flowered—Glume 1, or inner smaller* . . . . . GEN. XLIV. LOLIUM  
*Spikelets sol., broadside to rachis—Glumes equal* . . . . . GEN. XLV. AGROPYRON (Triticum)  
*Spikelets sol., bilateral, 1 flowered—Glumes cartilaginous—Empty glumes 1-3* . . . . . GEN. XLVI. LEPTURUS  
*Spikelets sol., in a 2-rowed, unilateral spike—Glumes o* . . . . . GEN. XLVII. NARDUS  
*Spikelets in threes, 1 flowered—Paleæ with long awns* . . . . . GEN. XLVIII. HORDEUM  
*Spikelets 2 or 3 together, 2-7 flowered* . . . . . GEN. XLIX. ELYMUS

SEC. II.—Spikelets stalked, free of the rachis ; mostly in an open panicle, sometimes in a cylindrical spike.

A. Spikelets with 1 perfect floret, and 1 or more rudimentary or neuter ones.

\* Spikelets on a dense spike.

- Spike cylindrical, interrupted below—Paleæ with an involucre of bristles—Glumes 4* . . . . . \*GEN. II. SETARIA  
*Spike ovate—Glumes equal, boat shaped, keeled—Sta. 3* . . . . . GEN. V. PHALARIS (Species 1, 2, and 3).  
*Spike large, cylindrical—Paleæ with hairs at base* . . . . . GEN. XVIII. AMMOPHILA  
*Spike ovate—Outer paleæ bifid, fl. glume 3 awned; empty gl. plumose* . . . . . GEN. XIX. LAGURUS

\* \* Spikelets in an interrupted, spike-like panicle.

*Sta. 3—Glumes equal, boat shaped, keeled* . . . GEN. V. PHALARIS ARUNDINACEA

*Sta. 2—Glumes unequal, awned* . . . GEN. VI. ANTHOXANTHUM

\* \* \* Spikelets in an open panicle.

*Upper floret perfect; 2 lower male, triandrous, all unawned—Ovary glabrous* . . . GEN. VII. HIEROCHLOE (Savastana)

*Upper floret with stamens only, awned; lower perfect, unawned* . . . GEN. XXIII. HOLCUS

*Upper floret perfect, with short, straight awn; lower barren, with long awn* . . . GEN. XXVI. ARRHENATHERUM

B. Spikelets with 1 perfect floret, and no rudimentary or barren ones.

\* Spikelets in a dense, cylindrical spike.

*Paleæ awned, 1 nerved—Glumes 6* . . . GEN. VIII. ALOPECURUS

*Paleæ awned, 2 nerved—Glumes 3* . . . GEN. X. PHLEUM

\* \* Spikelets in a lax panicle.

*Glumes 0—Fl. gl. and palea 1 nerved* . . . GEN. IV. LEERSIA (Homalocenchrus)

*Glumes equal—Paleæ unawned* . . . GEN. IX. MILIUM

*Glumes unequal; upper the smaller; outer paleæ unawned—Panicle loose; fl. glume small, membranous* . . . GEN. XII. AGROSTIS

*Glumes equal—Rachis with long silky hairs—Rachis not longer than flowering glume* . . . GEN. XIV. CALAMAGROSTIS CANESCENS

*Glumes unequal; lower the smaller—Outer paleæ awned—Fl. glume bifid* . . . GEN. XVII. APERA

\* \* \* Spikelets in a close spike-like panicle.

*Glumes emarginate, with a long slender awn* . . . GEN. XIII. POLYPOGON

*Glumes equal—Paleæ surrounded by silky hairs—Rachis not longer than flowering glume* . . . CALAMAGROSTIS EPIGEIOS

*Glumes equal—Rachis ciliate, longer than flowering glume* . . . GEN. XV. DEVEUXIA

*Glumes acute, united and swollen at base* . . . GEN. XVI. GASTRIDIMUM

C. Spikelets with 2 or more perfect flowers.

\* Florets awned.

† Lower paleæ entire.

*Awn bent in the middle, tip clavate* . . . GEN. XXI. CORYNEPHORUS (Weingærtneria)

*Rachis bearded with long silky hairs—Fruit free of palea* . . . GEN. XXIX. PHRAGMITES (Arundo)

*Spikelets in an interrupted spike—Fruit free of palea—Fl. gl. scarious* . . . GEN. XXXII. KÆLERIA

*Spikelets crowded, subsecund—Fruit free of palea* . . . GEN. XXXVI. DACTYLIS

*Spikelets mostly in a 1-sided panicle—Fruit adhering to palea (Distichous in Festuca rigida)—Ovary glab.* . . . GEN. XLI. FESTUCA

† † Lower paleæ bifid.

*Glumes equalling lower floret—Awn geniculate—Rachis shorter than uppermost flowering glume* . . . GEN. XX. AIRA

*Rachis longer than uppermost flowering glume—Lower pale jagged* . . . GEN. XXII. DESCHAMPSIA

*Flowers 2-6—Fl. glume deeply bifid, awn twisted—Ovary glabrous—Fruit not crested nor furrowed* . . . GEN. XXIV. TRISETUM

*Glumes equalling lower floret—Awn twisted—Ovary hairy at top—Fr. crested and furrowed* . . . GEN. XXV. AVENA



- Glume shorter than lower floret—Awn straight* . GEN. XLII. BROMUS  
 \* \* Florets not awned.  
 a. Spikelets with an apparent involucre.  
*Spikelets with a ciliate bract at base* . . . . . GEN. XXX. SESLERIA  
*Spikelets subspiculate, or capitate, with a pectinate  
 bract at base* . . . . . GEN. XXXI. CYNOSURUS  
 b. Spikelets without an apparent involucre.  
 † Fruit adhering to palea.  
*Glumes boat shaped, saccate, scarious, obtuse—  
 Spikelets paniced, pendulous* . . . . . GEN. XXXVIII. BRIZA  
 † † Fruit not adhering to palea.  
*Glumes unequal, acute, as long as the outer palea  
 —Fl. glume deeply concave, emarginate, with  
 an intermediate tooth* . . . . . GEN. XXVIII. SIEGLINGIA  
 (Triodia)  
*Glume unequal, not veined, shorter than the lanc.  
 spikelet—Palea hardening in fruit* . . . . . GEN. XXXIII. MOLINIA  
*Glumes and outer paleæ eroso-truncate—Spikelets  
 in a loose panicle with whorled branches* . . . . . GEN. XXXIV. CATABROSA  
*Glumes equal, veined, nearly as long as the ovate  
 spikelet—Spikelets of 1 or 2 perfect florets and  
 1 or more rudiments* . . . . . GEN. XXXV. MELICA  
*Glumes 8-12, obtuse, mucronate, nerves faint—  
 Spikelets spiked, distichous, rigid* . . . . . GEN. XXXVII. DESMAZERIA  
*Glumes acute, unequal—Outer palea with 3-5  
 parallel veins, compressed, keeled—Spikelets  
 paniced* . . . . . GEN. XXXIX. POA  
*Fl. glumes convex, obtuse, tip nerveless—Spikelets  
 very many flowered* . . . . . GEN. XL. GLYCERIA

## ORD. XCIII.—PINACEÆ (Coniferæ) (p. 252).

- Few seeded in a fleshy globose cone, black when ripe  
 (galbulus), at length connate—Bracts—Ls.  
 evergreen* . . . . . GEN. I. JUNIPER  
*One seeded, in a pink, fleshy cup (Aril)—Ls. ever-  
 green* . . . . . GEN. II. TAXUS  
*Many seeded, in a dry, woody cone, with persistent  
 woody scales—Evergreen trees* . . . . . GEN. III. PINUS  
*Leaves deciduous* . . . . . \*GEN. IV. LARIX

## ORD. XCIV.—EQUISETACEÆ (p. 252).

- Leafless plants, stem striate, hollow, with toothed  
 sheaths* . . . . . GEN. I. EQUISETUM

## ORD. XCV.—POLYPODIACEÆ (p. 254).

- \* Spore clusters (sori)—Indusium apparently consisting of the  
 reflexed margin of the frond.  
*Fertile fronds dissimilar—Clusters circular, at  
 length confluent* . . . . . GEN. I. CRYPTOGRAMME  
 (Allosorus)  
*Fronds all similar—Sori linear, continuous* . . . . . GEN. II. PTERIS  
*Fronds all similar—Clusters short, oblong* . . . . . GEN. III. ADIANTUM  
*Fertile fronds dissimilar—Clusters continuous* . . . . . GEN. IV. BLECHNUM (Lomaria)  
 \* \* Clusters (sori) dorsal, linear.  
*Clusters double, parallel* . . . . . GEN. V. PHYLLITIS  
 (Scolopendrium)  
*Clusters single—Margin of indusium entire* . . . . . GEN. VI. ASPLENIUM  
*Clusters single—Margin of indusium laciniate* . . . . . GEN. VII. ATHYRIUM



\* \* \* Clusters (sori) dorsal, roundish.

- Indusia circular, attached by their centre* . . . GEN. VIII. POLYSTICHUM  
*Indusia reniform, attached by their sides* . . . GEN. IX. DRYOPTERIS (Lastrea)  
*Indusia hooded, attached by their base* . . . GEN. X. CASTOPTERIS  
*Indusia laciniate, attached beneath the sori* . . . GEN. XV. WOODSIA

B. Spore clusters without an indusium.

- Clusters round—Stem articulate with rootstock* . GEN. XI. POLYPODIUM  
*Clusters round—Stem not articulate with rootstock* GEN. XII. PHEGopteris  
*Clusters linear, covered with chaffy scales* . . . GEN. XIII. CETERACH  
*Clusters linear—British plant an annual* . . . GEN. XIV. GYMNOGRAMME

#### ORD. XCVI.—HYMENOPHYLLACEÆ (p. 260).

- Indusium cup shaped* . . . . . GEN. I. TRICHOMANES  
*Indusium 2 valved* . . . . . GEN. II. HYMENOPHYLLUM

#### ORD. XCVII.—OSMUNDACEÆ (p. 260).

- Leaves bipinnate, fertile at top* . . . . . GEN. I. OSMUNDA

#### ORD. XCVIII.—OPHIOGLOSSACEÆ (p. 262).

- Fronde pinnate—Spikes paniced* . . . . . GEN. I. BOTRYCHIUM  
*Fronde entire, spikes simple* . . . . . GEN. II. OPHIOGLOSSUM

#### ORD. XCIX.—MARSILIACEÆ (p. 262).

- Spore clusters sessile, globose, coriaceous 4-8—Leaves subsolitary, setaceous, erect—An aquatic* . . GEN. I. PTLULARIA

#### ORD. C.—ISOETACEÆ (p. 262).

- Stem obscure—Leaves radical, filiform—Sporangium sessile, axillary* . . . . . GEN. I. ISOETES

#### ORD. CI.—LYCOPODIACEÆ (p. 264).

- Stem long—Sporangia and spores of one kind* . . GEN. I. LYCOPodium

#### ORD. CII.—SELAGINELLACEÆ (p. 264).

- Stem evident—Sporangia and spores of 2 kinds, 1 minute* . . . . . GEN. I. SELAGINELLA

#### ORD. CIII.—SALVINIACEÆ (p. 264).

- Spore clusters membranous 2-4—Leaves crowded in 2 ranks, horizontal—Free floating aquatic* . GEN. I. AZOLLA.





# TABULAR CLASSIFICATION

# TABULAR

## ORD. I.—RANUNCULACEÆ.

| Botanical Name.                   | Common Name.           | Soil<br>or<br>Situation. | Colour. | Growth.              | Duration<br>and<br>time of<br>flowering. |
|-----------------------------------|------------------------|--------------------------|---------|----------------------|--|
| <b>Gen. I. Clematis L.</b>        |                        |                          |         |                      |  |
| 1. <i>C. Vitalba L.</i> . . .     | <i>Traveller's Joy</i> | Hedges . .               | W.      | Cl.                  | Sh. 7-8                                  |
| <b>Gen. II. Thalictrum L.</b>     |                        |                          |         |                      |  |
| 1. <i>T. flavum L.</i> . . .      | <i>Meadow Rue</i> .    | Riv. bks. .              | p Y.    | 2-4 ft.              | P. 7 8                                   |
| <i>a. sphaerocarpum</i><br>Syme   | . . . . .              | . . . . .                | . .     | . .                  | . .                                      |
| <i>b. riparium, Syme</i> .        | . . . . .              | . . . . .                | . .     | . .                  | . .                                      |
| <i>c. rufinerve (L. &amp; C.)</i> | . . . . .              | . . . . .                | . .     | 4-6 ft.              | . .                                      |
| 2. <i>T. minus L.</i> . . . .     | <i>Sm. M. R.</i> . .   | Rck. pl. etc.            | g Y.    | $\frac{3}{4}$ -2 ft. | P. 7-8                                   |
| <i>b. calcareum (Jord.)</i>       | . . . . .              | Calc. pl. . .            | . .     | . .                  | . .                                      |
| <i>c. dunense (Dum.)</i> .        | . . . . .              | Sand. sh. . .            | . .     | 1-1½ ft.             | . .                                      |
| <i>d. glandulosum (Koch)</i>      | . . . . .              | Rock. pl. . .            | . .     | . .                  | . .                                      |
| <i>e. majus (Crantz)</i> .        | . . . . .              | Wet. roc. pl.            | . .     | 2-4 ft.              | . .                                      |
| <i>f. Kochii (Fr.)</i> . . .      | . . . . .              | „ „ L.                   | . .     | 2-4 ft.              | . .                                      |
| 3. <i>T. alpinum L.</i> . . .     | <i>Alpine M. R.</i> .  | Wet. alp pl. L.          | Y.      | 4-8 in.              | P. 7-8                                   |
| <b>Gen. III. Anemone L.</b>       |                        |                          |         |                      |  |
| 1. <i>A. Pulsatilla L.</i> . .    | <i>Pasque Flower</i>   | Calc. downs. L.          | Pu.     | 4-8 in.              | P. 4-5                                   |
| 2. <i>A. nemorosa L.</i> . .      | <i>Wood Anemone</i>    | Woods . .                | W.      | . .                  | P. 4-5                                   |
| *3. <i>A. ranunculoides L.</i>    | <i>Yellow „</i> .      | Plants. R. .             | Y.      | . .                  | P. 4-5                                   |
| *4. <i>A. apennina L.</i> . .     | <i>Blue Mt. „</i> .    | Plants. R. .             | B.      | . .                  | P. 5-6                                   |
| <b>Gen. IV. Adonis L.</b>         |                        |                          |         |                      |  |
| 1. <i>A. annua L.</i> . . .       | <i>Pheasant's Eye</i>  | Corn fie. R. .           | Sc.     | 6-10 in.             | A. 5-9                                   |
| <b>Gen. V. Myosurus L.</b>        |                        |                          |         |                      |  |
| 1. <i>M. minimus L.</i>           | <i>Mouse-tail</i> . .  | Corn fie. L. .           | g Y.    | 2-4 in.              | A. 4-6                                   |

# CLASSIFICATION

## ORD. I.—RANUNCULACEÆ.

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### CHARACTERISTICS OF SPECIES AND VARIETIES.

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#### Gen. I. Clematis.

1. Climbing—Ls. pinn. ; lfts. (3-5) cord.—Fr. with feathery awns.

#### Gen. II. Thalictrum.

1. St. furrowed—L. bipinn. ; lfts. 5-6 ov.—Pan. dense—Fl. erect.
  - a. *Ach. glob.-ovoid*—*Lfts. broadish.*
  - b. *Ach. oval-ovoid*—*Lfts. broadish.*
  - c. *Lfts. rather narrow, oblong.*
2. St. smooth or striate—Lfts. roundish, glauc.—Pan. diff.—Fl. mostly drooping.
  - b. *St. leafless*—*Fl. br erect, patent, green*—*Pan. narr.-delt.*
  - c. *St. few leaves*—*Fl. br. horiz. or declining*—*Pan. broad Maritime.*
  - d. *St. leafless*—*Ls. glandular.*
  - e. *St. leafy below, tall*—*Lfts. lge. carp., ellip.*
  - f. *St. leafy below, tall*—*Aur. horiz. ; carp. ovoid.*
3. St. simp., naked—Lfts. sm. glauc. beneath—Alpine.

#### Gen. III. Anemone.

1. Fl. erect—Sep. silky—Ls. bipinn. ; seg. lin.—Ach. feathery.
2. Fl. drooping, white—Ls. tern.—Sep. 6 obl —Ach. not feath.
- \*3. Fl. drooping, yellow—Ls. tern.—Sep. 5-7—Ach. not feath.
- \*4. Fl. erect, blue—Ls. tritern.—Sep. 10-14—Ach. not feath.

#### Gen. IV. Adonis.

1. Ls. decompose ; seg. lin.—Pet. 5-10 concave, emarginate.

#### Gen. V. Myosurus.

1. Ls. lin., fleshy—Recep. slender—Pet. small.



ORD. I.—RANUNCULACEÆ (*continued*).

| Botanical Name.                  | Common Name.                     | Soil<br>or<br>Situation. | Colour. | Growth.     | Duration<br>and<br>time of<br>flowering. |
|----------------------------------|----------------------------------|--------------------------|---------|-------------|--|
| <b>Gen. VI. Ranunculus L.</b>    |                                  |                          |         |             |  |
| SEC. I.                          |                                  |                          |         |             |  |
| A.                               |                                  |                          |         |             |  |
| *                                |                                  |                          |         |             |  |
| 1. <i>R. repens</i> L. . . .     | <i>Creep. Crowfoot</i>           | Fie. & Past.             | Y.      | 6-12 in.    | P. 5-8                                   |
| 2. <i>R. acris</i> L. . . .      | <i>Buttercup. Crow-<br/>foot</i> | Past. . . .              | Y.      | 6 in. 3 ft. | P. 6-8                                   |
| <i>a. Borœanus</i> (Jord.)       | . . . .                          | . . . .                  | . .     | . .         | . .                                      |
| <i>b. Steveni</i> (Andr.)        | . . . .                          | . . . .                  | . .     | . .         | . .                                      |
| <i>c. pumilus</i> Wahl.          | . . . .                          | Cairngorms .             | . .     | . .         | . .                                      |
| 3. <i>R. auricomus</i> L. .      | <i>Goldilocks</i> . .            | Thickets, etc.           | Y.      | 6-10 in.    | P. 4-8                                   |
| 4. <i>R. bulbosus</i> L. . .     | <i>Buttercup</i> . .             | Pastures . .             | Y.      | 6 in. 2 ft. | P. 5-8                                   |
| 5. <i>R. sceleratus</i> L.. .    | <i>Celery-leaved C.</i>          | Muddy places             | Y.      | 6 in. 2 ft. | A. 5-9                                   |
| * *                              |                                  |                          |         |             |  |
| 6. <i>R. flabellatus</i> Desf.   | . . . .                          | Hdg. bk. .               | Y.      | 4-10 in.    | P. 5-6                                   |
|                                  |                                  | V. R. Jersey             |         |             |  |
| 7. <i>R. sardous</i> Cr. . .     | <i>Pale hairy C.</i> .           | Fie. etc. L. .           | Y.      | 6-15 in.    | A. 6-10                                  |
| <i>b. parvulus</i> (L.) . .      | . . . .                          | . . . .                  | . .     | 3-6         | . .                                      |
| 8. <i>R. parviflorus</i> L. .    | <i>Sm. flowered C.</i>           | Fie. Bk. L. .            | Y.      | 3-12        | A. 5-6                                   |
| 9. <i>R. arvensis</i> L. . .     | <i>Corn C.</i> . . . .           | Corn fie. . .            | Y.      | 6-18        | A. 5-7                                   |
| B.                               |                                  |                          |         |             |  |
| 10. <i>R. Lingua</i> L.. . .     | <i>Spearwort</i> . .             | Marshes L. .             | Y.      | 2-5 ft.     | P. 6-9                                   |
| 11. <i>R. Flammula</i> L. .      | <i>Less. Spearwort</i>           | Wet pl. . .              | Y.      | 4-18 in.    | P. 6-10                                  |
| <i>b. scoticus</i> (E.S. Marsh.) | . . . .                          | Highland .               | . .     | 4-12 in.    | . .                                      |
|                                  |                                  | Lakesides L.             |         |             |  |
| <i>c. reptans</i> (L.) . . .     | . . . .                          | Marg. of .               | . .     | 1-4 in.     | . .                                      |
|                                  |                                  | Lakes R.                 |         |             |  |
| <i>d. tenuifolius</i> Wallr..    | . . . .                          | Wet pl. . .              | . .     | . .         | . .                                      |
| 12. <i>R. ophioglossifolius</i>  | <i>Adder's tongue</i> S.         | Wet pl. V. R.            | Y.      | 6-10 in.    | A. 6-8                                   |
| <i>Vill.</i>                     |                                  |                          |         |             |  |
| 13. <i>R. Ficaria</i> L.. . .    | <i>Sm. Celandine</i> .           | Dp. pl. . .              | Y.      | 3-6 in.     | P. 4-5                                   |
| <i>b. incumbens</i> Schultz      | . . . .                          | . . . .                  | . .     | . .         | . .                                      |
| SEC. II.                         |                                  |                          |         |             |  |
| A.                               |                                  |                          |         |             |  |
| Batrachian . .                   |                                  |                          |         |             |  |
| 14. <i>R. fluitans</i> Lam. .    | <i>Water Crowfoot</i>            | Rivers . .               | W.      | flo.        | P. 5-8                                   |
| <i>b. Bachii</i> (Wirtg.) .      | . . . .                          | Streams . .              | . .     | . .         | . .                                      |
| <i>c. cambricus</i> (Ar.         | . . . .                          | Lake R. . .              | . .     | . .         | . .                                      |
| <i>Benn.</i> )                   |                                  |                          |         |             |  |
| B.                               |                                  |                          |         |             |  |
| 15. <i>circinatus</i> Sibth . .  | . . . .                          | Pools, etc. .            | W.      | flo.        | P. 6-8                                   |
| 16. <i>trichophyllus</i> Chaix.  | . . . .                          | . . . .                  | W.      | flo.        | P. 5-7                                   |
| <i>b. Drouetii</i> (F. Sch.).    | . . . .                          | . . . .                  | . .     | . .         | . .                                      |
| <i>c. aspergillifolius</i>       | . . . .                          | . . . .                  | . .     | . .         | . .                                      |
| (Hiern)                          |                                  |                          |         |             |  |

ORD. I.—RANUNCULACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IV. *Ranunculus*.

## SEC. I.—TERRESTRIAL PLANTS WITH YELLOW FLOWERS.

A. *Leaves divided*.\* *Achenes smooth*.

1. Cal. spread.—Ped. furrowed—Rt. creep.—Recep. hairy.

2. Cal. spread.—Ped. smooth—Rt. fibr.—Recep. glab.

a. *Root-stock erect—Ls. usually finely cut.*b. *Root-stock horiz.—Ls. with broader divis.*c. *Ls. glabrous—Pl. small alpine.*

3. Rad. ls. reni., usually glab., long-stalked ; st. ls. digit. ; seg. lin.—Cal. spread. coloured.

4. Cal. reflex.—Ped. furrowed—Root st. bulb-like—Ls. hairy;

5. Cal. reflex.—Ls. tripinn., glabr. ; upper lobes lin.—Fr. small—St. succulent.

\*\* *Achenes rough*.

6. Recep. oblong—Root of short ovoid knobs and fibres—Outer ls. ternate.

(*R. chærophyllus* of last edit.).

7. Ach. tubercled at margins—Cal. reflex.—St. erect, many fld.

b. *St. prostrate—Pl. very small.*

8. Ach. with hooked tubercles—Ls. orb., 3-lobed—St. decumb.—Pedunc. lat.

9. Ach. covd. with hooked spines—St. erect—Cal. spread—Fl. pale yellow.

B. *Leaves entire*.

10. St. erect—Ls. lanc. sess.—Fl. large (1 in.)—Beak of carp. stout.

11. St. usually proc. and rooting—Ls. variable—Fls.  $\frac{1}{4}$ – $\frac{1}{2}$  in.—Carp. with short beak.b. *St. zigzag—Erect—Early root ls. without lamina, upper lin. lanc. entire.*c. *St. proc. filiform, arcuate, rooting at every joint—Ls. linear—Fl. very tiny.*d. *St. proc. rooting coarser than last—Ls. lin. lanc.—Fl. intermed. in size.*

12. St. erect—Ls. ov. lanc. ; lower ones ovate, long stalked—Pet. scarcely longer than sep.

13. St. one flowered—Ls. cord. angled—Rt. with fasciculate knobs—Sep. usually 3.

b. *Lobes of lowest ls. overlapping.*

## SEC. II.—WATER BUTTERCUPS—AQUATIC PLANTS WITH WHITE FLOWERS.

A. *Fls. lge. usually no flo. ls.*

14. Seg. of l. long, rigid and parallel—Ped. shorter than leaves—Plant strong—Recep. not hispid.

b. *Similar but ls. smaller, narrower, and sessile—Ped. longer than ls.*c. *Small, ls. recurved, fl. small—Llyn Coron Anglesey.*B. *Fls. sm.—Floating ls. usually absent.*

15. Segm. of ls. spreading in one flat rigid plane—Dark green.

16. " " " but not in one flat rigid plane—Dk. green.

b. *Segm. of ls. spreading but not in one flat rigid plane—Leaves collapsing when taken from water—Light green.*c. *Whole plant submerged, flowering under water—Rescobie Forfar.*

ORD. I.—RANUNCULACEÆ (*continued*).

| Botanical Name.  | Common Name.                   | Soil<br>or<br>Situation.       | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------------|--------------------------------|---------|-----------|--|
| <b>Gen. VI. Ranunculus L.</b><br>( <i>continued</i> ).<br>C. |                                |                                |         |           |  |
| 17. <i>peltatus</i> Schrank .                                | . . . .                        | Ponds, lakes,<br>etc.          | W.      | flo.      | P. 5-9                                   |
| <i>b. truncatus</i> (Koch) .                                 | . . . .                        | . . . .                        | . .     | . .       | . .                                      |
| <i>c. floribundus</i> (Bab.) .                               | . . . .                        | . . . .                        | . .     | . .       | . .                                      |
| <i>d. penicillatus</i> (Dum.) .                              | . . . .                        | Streams . .                    | . .     | . .       | . .                                      |
| 18. <i>heterophyllus</i> Weber.                              | . . . .                        | Ponds, etc. .                  | W.      | flo.      | P. 5-7                                   |
| <i>b. triphyllus</i> (Wallr.) .                              | . . . .                        | . . . .                        | . .     | . .       | . .                                      |
| 19. <i>Baudotii</i> Godr. . .                                | . . . .                        | Brackish wat.<br>Rarely inland | W.      | flo.      | P. 5-8                                   |
| <i>b. confusus</i> (Godr.) .                                 | . . . .                        | Lakes and<br>brackish wat.     | . .     | . .       | . .                                      |
| 20. <i>R. tripartitus</i> DC. .                              | . . . .                        | Shallow pools<br>V. R.         | W.      | flo.      | P. 5-8                                   |
| <i>b. lutarius</i> (Bouv.) .                                 | . . . .                        | Wet places R.                  | pkW     | . .       | . .                                      |
| 21. <i>R. Lenormandi</i> F.<br>Schultz.                      | . . . .                        | Pools and<br>muddy pl. L.      | W.      | 4-12 in.  | P. 1-8                                   |
| 22. <i>R. hederaceus</i> L. .                                | <i>Ivy-leaved<br/>Crowfoot</i> | Muddy pl. .                    | W.      | 2-6 in.   | P. 6-9                                   |
| <i>b. omiophyllus</i> (Ten.)                                 | . . . .                        | Pools, etc. .                  | W.      | 6-12 in.  | P. 6-9                                   |
| <b>Gen. VII. Caltha L.</b>                                   |                                |                                |         |           |  |
| 1. <i>C. palustris</i> L. . .                                | <i>Marsh Mari-<br/>gold.</i>   | Marshes . .                    | Y.      | 8-18 in.  | P. 3-6                                   |
| <i>b. Guerangerii</i> (Bor.) .                               | . . . .                        | . . . .                        | . .     | . .       | . .                                      |
| <i>c. minor</i> DC. . . .                                    | . . . .                        | Wet mt. pl. .                  | . .     | 3-6 in.   | 3-8                                      |
| <i>d. radicans</i> (Forst.) .                                | . . . .                        | Wet sub-alp.<br>pl. R.         | . .     | 8-14 in.  | 4-7                                      |
| <b>Gen. VIII. Trollius L.</b>                                |                                |                                |         |           |  |
| 1. <i>T. europæus</i> L. . .                                 | <i>Globe flower</i> .          | Moun. pas. .                   | Y.      | 6-18 in.  | P. 5-6                                   |
| <b>Gen. IX. Helleborus L.</b>                                |                                |                                |         |           |  |
| 1. <i>H. viridis</i> L. . . .                                | <i>green Hellebore</i>         | Woods R. .                     | y G.    | 12-18 in. | P. 3-5                                   |
| 2. <i>H. foetidus</i> L. . .                                 | <i>stinking H.</i> . .         | Woods R. .                     | G.      | 1-2 ft.   | P. 3-5                                   |
| <b>Gen. X. Eranthis, Salisb.</b>                             |                                |                                |         |           |  |
| *1. <i>E. hyemalis</i> , Salisb.                             | <i>Winter Aconite</i>          | Parks, etc. .                  | Y.      | 4-12 in.  | P. 2 4                                   |
| <b>Gen. XI. Aquilegia L.</b>                                 |                                |                                |         |           |  |
| 1. <i>A. vulgaris</i> L. . .                                 | <i>Columbine</i> . .           | Thick. . .                     | Pu.     | 1-2 ft.   | P. 5-6                                   |



ORD. I.—RANUNCULACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. VI. *Ranunculus* (*continued*).*C. Fls. large—Flo. ls. usually present.*

17. Flo. ls.—Cut  $\frac{1}{2}$  way to base—Sub. ls. usually rigid.
- b. Fl. ls.  $\frac{2}{3}$  circ., outer base of lateral segm. much rounded—Pet. contig. stig. club-shaped.*
- c. Fl. ls. sub-peltate—Pet. not contig.—Stig. tongue-shaped.*
- d. Fl. ls. few or cut into irreg. seg.—Subm. ls. long—Capillary segments 3-4 in. long.*
18. Flo. ls. nearly circ. deeply cut into 3-5 wedge-sh. segm.—Sub. ls. long tassel-like ; petals not contig.
- b. Submerged ls. not tassel-like—Carp. inflated at end—Rare.*
19. Fl. ls. with sessile or stalked 3-4 lobed segm.—Subm. ls. rigid—Ped. longer and carp. more numerous than 17 *c* or 19 *b*—Brackish water—St. shorter than head of pistils.
- b. Stamen longer than head of pistils.*
20. Subm. ls. loosely trifurcate, segm. very slend.—Fl. ls. small, deeply trifid with rounded 2-5 lobed segm.—Fl. very sm.—Sep. nearly as long as pet.—Cornwall and Cork.
- b. Subm. ls. rarely produced—Segm. flattened—St. usually aerial.*
21. No divided submerged ls.—Aer. ls. reni. ; lobes narrowest at base—Pet. twice as long as sep.
22. No divided subm. ls.—Aer. ls. reni.—Lobes (often triang.) widest at base—Pet. not longer than sep.
- b. A floating form, with larger leaves.*

Gen. VII. *Caltha*.

1. Ls. orb. rad.—St. erect—Sep. imbricate, contiguous
- b. Sep. not contiguous.*
- c. Procumb.—Fl. sm.—Sep. remote.*
- d. Rooting at joints—Rad. ls. deltoid, toothed.*

Gen. VIII. *Trollius*.

1. Ls. five partite ; seg. cun. lobed—Fls. glob. ; sep. golden-yellow.

Gen. IX. *Helleborus*.

1. Rad. ls. digit. decid.—St. few (3-4) flowered—Sep. spread.
2. Rad. ls. pedate, evergreen—St. many-flowered—Sep. erect, or converging.

Gen. X. *Eranthis* = *Cammarum*.

- \*1. Rad. ls. orb., 3-5 part. long stalked—Fls. sol.—Invol. leafy.

Gen. XI. *Aquilegia*.

1. Ls. 2-3 tern. ; seg. three-lobed, stalked—Sep. 5 coloured—Pet. spurred.

| Botanical Name.   | Common Name.                            | Soil<br>or<br>Situation. | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---|--------------------------|---------|-----------|--|
| <b>Gen. XII. Delphinium</b> <i>L.</i><br>*1. <i>D. Ajacis</i> <i>L.</i> . . . | <i>Field Larkspur</i>                   | Corn fie. . .            | B.      | 10-18 in. | A. 6-7                                   |
| <b>Gen. XIII. Aconitum</b> <i>L.</i><br>1. <i>A. anglicum</i> <i>Stapf.</i>   | <i>Monkshood</i> . .                    | Riv. bnks. R.            | d B.    | 1-2 ft.   | P. 7-8                                   |
| <b>Gen. XIV. Actæa</b> <i>L.</i><br>1. <i>A. spicata</i> <i>L.</i> . . .      | <i>Bane-berry, Herb<br/>Christopher</i> | Calc. wds. R.            | W.      | 1-2 ft.   | P. 5-6                                   |
| <b>Gen. XV. Pæonia</b> <i>L.</i><br>*1. <i>P. corallina</i> <i>Retz.</i> .    | <i>Peony</i> . . . .                    | Sea Cliff V.R.           | Cr.     | 2 ft.     | P. 5-6                                   |

## ORD. II.—BERBERIDACEÆ.

|                              |     |                  |     |            |     |                  |
|------------------------------|-----|------------------|-----|------------|-----|------------------|
| <b>Gen. I. Berberis L.</b>   |     |                  |     |            |     |                  |
| I. B. vulgaris L.            | . . | <i>Barberry.</i> | . . | Hedges . . | pY. | 4-8 ft. Shb. 5-6 |
| <b>Gen. II. Epimedium L.</b> |     |                  |     |            |     |                  |
| *I. E. alpinum L.            | . . | . . . .          |     | Plant . .  | R.  | 6-18 in. P. 6-7  |

## ORD. III.—NYMPHÆACEÆ.

|                                  |                          |               |    |       |        |  |
|----------------------------------|--------------------------|---------------|----|-------|--------|--|
| <b>Gen. I. Nymphaea L.</b>       |                          |               |    |       |        |  |
| 1. N. lutea L. . . .             | <i>yellow Water-lily</i> | Lakes, etc. . | Y. | flo.  | P. 7-8 |  |
| b. <i>intermedia</i> (Ledeb.)    | . . . .                  | . . . .       | .. | . . . | . .    |  |
| 2. N. pumila Hoffm. .            | <i>least W. . .</i>      | Lakes R.N.Br. | Y. | flo.  | P. 7-8 |  |
| <b>Gen. II. Castalia Salisb.</b> |                          |               |    |       |        |  |
| 1. C. alba Wood. . .             | <i>white Water-lily</i>  | Lakes, etc. . | W. | flo.  | P. 7-8 |  |
| b. <i>minor</i> (DC.) . .        | . . . .                  | . . . .       | .. | . . . | . .    |  |

ORD. I.—RANUNCULACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XII. Delphinium.**

- \*1. St. erect, branched—Ls. multifid. ; seg. lin.—Rac. of fls. long—Carp. and foll. downy.

**Gen. XIII. Aconitum.**

1. St. erect, simp.—Ls. 3-5 part., seg. deeply cut—Fl. irreg. sep. coloured.

**Gen. XIV. Actæa.**

1. Ls. bitern. stalked ; lfts. trifid, deeply cut—Rac. simp., elong.—Fr. a berry.

**Gen. XV. Pæonia.**

- \*1. Ls. bitern. ; lfts. ovate glauc. beneath—Foll. downy—Rt. fleshy, knobbed.

## ORD. II.—BERBERIDACEÆ.

**Gen. I. Berberis.**

1. Branches with three part. spines—Ls. ob.-ov. serr.—Fls. in a pend. rac.—Sta. sensitive.

**Gen. II. Epimedium.**

- \*1. Ls. all cauline, biternate ; Fl. red. An escape.

## ORD. III.—NYMPHÆACEÆ.

**Gen. I. Nymphæa = Nuphar of last edit.**

1. Ls. cord. ; lobes at base contiguous—Stig. ent. with 15-20 rays.
  - b. Fls. smaller ( $1\frac{1}{2}$  in. diam.)—Stig. slightly waved with 10-14 rays (*Chartness Loch*).
2. Ls. heart-shaped ; lobes at base distant—Stig. lobed with 8-10 rays—Much smaller than 1.

**Gen. II. Castalia = Nymphæa of last edit.**

1. Ls. cord. ent.—Pet. obl., white.
  - b. Fl. 3 in. diam., or less. Stig. of less than 16 rays.



## ORD. IV.—PAPAVERACEÆ.

| Botanical Name.                 | Common Name.            | Soil<br>or<br>Situation. | Colour.    | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---------------------------------|-------------------------|--------------------------|------------|----------|--|
| <b>Gen. I. Papaver L.</b><br>*  | <i>Poppy</i>            |                          |            |          |  |
| *1. <i>P. somniferum L.</i> .   | <i>Wh. or gard. P.</i>  | Fie. and W.pl.           | W.<br>etc. | 1-3 ft.  | A. 6-8                                   |
| 2. <i>P. Rhœas L.</i> . . .     | <i>Red Poppy</i> . .    | Corn fie. . .            | Sc.        | 1-2 ft.  | A. 5-7                                   |
| <i>b. strigosum Boenn.</i> .    |                         |                          |            |          |  |
| 3. <i>P. dubium L.</i> . . .    | <i>Pale Red P.</i> .    | Corn fie. . .            | p R.       | 1-2 ft.  | A. 5-7                                   |
| <i>a. Lamottei (Bor.)</i> .     | . . . .                 | . . . .                  | . .        | . .      | . .                                      |
| <i>b. Lecoqii (Lam.)</i> .      | . . . .                 | . . . .                  | . .        | . .      | . .                                      |
| * *                             |                         |                          |            |          |  |
| 4. <i>P. Argemone L.</i>        | <i>Rough Head P.</i>    | Corn fie. . .            | p R.       | 6-12 in. | A. 6-7                                   |
| 5. <i>P. hybridum L.</i> . .    | „ „ <i>P.</i>           | Corn fie. . .            | Cr.        | 6-15 in. | A. 6-8                                   |
| <b>Gen. II. Meconopsis Vig.</b> |                         |                          |            |          |  |
| 1. <i>M. cambrica Vig.</i> .    | <i>Welsh Poppy.</i> .   | Rocky pl. .              | Y.         | 1-2 ft.  | P. 6-8                                   |
| <b>Gen. III. Glaucium Hill</b>  |                         |                          |            |          |  |
| 1. <i>G. flavum Cr.</i> . . .   | <i>Yellow horned P.</i> | Sea co. . .              | Y.         | 1-2 ft.  | B. 6-9                                   |
| *2. <i>G. corniculatum Cr.</i>  | <i>Scarlet</i> . . . .  | W. pl. . . .             | Sc.        | 9-18 in. | B. 7-8                                   |
| <b>Gen. IV. Roemeria Med.</b>   |                         |                          |            |          |  |
| *1. <i>R. hybrida DC.</i> . .   | <i>Violet horned P.</i> | Corn fie. V.R.           | V.         | 9-18 in. | A. 5-6                                   |
| ( <i>R. violacea Med.</i> )     |                         |                          |            |          |  |
| <b>Gen. V. Chelidonium L.</b>   |                         |                          |            |          |  |
| *1. <i>C. majus L.</i> . . . .  | <i>Great Celandine</i>  | Sha. pl. . . .           | Y.         | 1-2 ft.  | P. 5-8                                   |
| <i>b. laciniatum Stokes</i>     | . . . .                 | W. pl. Plants.<br>V. R.  | Y.         | . .      | . .                                      |

## ORD. V.—FUMARIACEÆ.

|   |                       |                            |                 |          |        |
|---|-----------------------|----------------------------|-----------------|----------|--------|
| <b>Gen. I. Corydalis DC. = Capnoides Adans.</b> |                       |                            |                 |          |        |
| *1. <i>C. tuberosa DC.</i> . .                  | <i>Purp. Fumitory</i> | Plants. etc. R.            | Pu.             | 6-10 in. | P. 4-5 |
| *2. <i>C. bulbosa DC.</i> . .                   | . . . .               | „ „ R.                     | Pu.             | 6-10 in. | P. 4-5 |
| *3. <i>C. lutea DC.</i> . . . .                 | <i>Yellow Fum.</i> .  | Vill. walls .              | Y.              | 6-12 in. | P. 5-8 |
| 4. <i>C. claviculata DC.</i> .                  | <i>Climbing F.</i> .  | Thick.hea.etc.             | W.              | Cl.      | A. 6-9 |
| <b>Gen. II. Fumaria L.</b>                      |                       |                            |                 |          |        |
| 1. <i>F. capreolata L.</i> . .                  | <i>Fumitory</i> . .   | Hed. thick. &<br>w. pl. L. | Var.            | Cl.      | A. 6-9 |
| <i>a. pallidiflora (Jord.)</i>                  | . . . .               | . . . .                    | Cr.<br>&<br>Pu. | . .      | . .    |
| <i>b. speciosa (Jord.)</i> .                    | . . . .               | W. pl. V.R. .              | „               | . .      | . .    |
| <i>c. purpurea (Pugs.)</i>                      | . . . .               | W. pl. cult. gr.           | Pu.             | . .      | . .    |

1. Bract as long as fruiting ped.—Sep.  $\frac{1}{2}$  as long as cor.—Ped. rigidly recurved in fr.—Fr. obt. with distinct neck—St. climbing—Petioles twisted—Fl. large.  
 a. Sep. ov.,  $\frac{2}{3}$  as long as cor.—Spur white—Cor. persistent—Fr. rectang. in profile—Smooth—Pet. cr. col. tipped with purple.  
 b. Sep. ov.-obl.  $\frac{1}{2}$  as long as cor.—Cor. less persis., usually coloured—Fr. smaller, more rounded (when dry) in prof., smooth—Guernsey.  
 c. Fr. smaller—Sep.  $\frac{1}{2}$  as long as cor. obl. often obt.—Cor. purplish, tipped with dk.-pu.—Ped. patent recurved in fr.—Fr. when dry slightly rugose.

ORD. V.—FUMARIACEÆ (*continued*).

| Botanical Name.                                     | Common Name.            | Soil<br>or<br>Situation. | Colour.                  | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|--------------------------|--------------------------|----------|--|
| <b>Gen. II. Fumaria L.</b><br>( <i>continued</i> ). |                         |                          |                          |          |  |
| 2. <i>F. muralis</i> Sond. .                        | . . . .                 | W. pl. cul. gr.          | Pu.                      | 4-24 in. | A. 5-9                                   |
| <i>a. muralis</i> (Sond.) .                         | . . . .                 | " V.R. "                 | Pu.<br>&<br>Pk.          | . .      | 5-9                                      |
| <i>b. Boræi</i> (Jord.) .                           | . . . .                 | Cult. gr. . .            | "                        | . .      | 5-9                                      |
| <i>c. verna</i> (Clav.) . .                         | . . . .                 | " . .                    | "                        | . .      | 4-9                                      |
| <i>d. ambigua</i> (Pugs.).                          | . . . .                 | " . .                    | "                        | . .      | 6-9                                      |
| <i>e. serotina</i> (Clav.) .                        | . . . .                 | W. pl. cult. gr.         | "                        | . .      | 6-9                                      |
| <i>f. muraliformis</i> (Cl.)                        | . . . .                 | " "                      | "                        | . .      | 6-9                                      |
| 3. <i>F. Bastardi</i> Bor. .                        | <i>Fumitory</i> . .     | Cult.gr.or w.pl.         | Pu.<br>or<br>Var.        | Cl.      | A. 4-9                                   |
| <i>b. occidentalis</i> (Pugs.).                     | . . . .                 | " "                      | Ro.<br>Pk.<br>or<br>Var. | Cl.      | A. 6-10                                  |
| 4. <i>F. officinalis</i> L. . .                     | <i>Fumitory</i> . .     | Cult.gr.w.pl.R.          | Pu.                      | 6-12 in. | A. 5-9                                   |
| <i>b. scandens</i> . . . .                          | . . . .                 | " "                      | . .                      | 1-2 ft.  | A. 7-10                                  |
| 5. <i>F. densiflora</i> DC. .                       | . . . .                 | . . . .                  | . .                      | 6-24 in. | A. 6-9                                   |
| ( <i>F. micrantha</i> Lag.)                         |                         |                          |                          |          |  |
| 6. <i>F. parviflora</i> Lam. .                      | <i>Fine-leaved F.</i> . | Ch.corn fie. R.          | W.<br>&<br>Pu.           | 6-10 in. | A. 6-9                                   |
| <i>b. Vaillantii</i> (Lois.)                        | . . . .                 | . . . .                  | Pu.<br>Ro.               | . .      | . .                                      |

## ORD. VI.—CRUCIFERÆ.

|  |                        |                  |     |             |        |
|--|------------------------|------------------|-----|-------------|--------|
| <b>Gen. I. Mathiola Br.</b>                                |                        |                  |     |             |        |
| 1. <i>M. incana</i> Br. . . .                              | <i>Stock</i> . . . .   | Sea cliffs.V. L. | Pu. | 1-2 ft.     | P. 5-7 |
| 2. <i>M. sinuata</i> Br. . . .                             | <i>Sea Stock</i> . . . | Sea sand.V. R.   | Pu. | 1-2 ft.     | B. 6-8 |
| <b>Gen. II. Cheiranthus L.</b>                             |                        |                  |     |             |        |
| *1. <i>C. Cheiri</i> L. . . .                              | <i>Wall flower</i> .   | Walls & ro. .    | Y.  | 6-15 in.    | P. 4-5 |
| <b>Gen. III. Radicula Hill</b><br>( <i>Nasturtium</i> Br.) |                        |                  |     |             |        |
| *  |                        |                  |     |             |        |
| 1. <i>R. Nasturtium</i> Druce.                             | <i>Water Cress</i> .   | Brooks, etc. .   | W.  | 6 in. -3ft. | P. 6-7 |
| <i>b. siifolia</i> Druce . .                               | . . . .                | . . . .          | . . | . .         | . .    |
| <i>c. microphylla</i> Druce                                | . . . .                | . . . .          | . . | . .         | . .    |



ORD. V.—FUMARIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Fumaria* (*continued*).

2. Bracts more than  $\frac{1}{2}$  as long as fruiting ped.—Sep. ov. less than  $\frac{1}{2}$  as long as pink cor.—Pedi. usually straight and erect, spreading in fr.—Fr. less trunc. than 1 and with shorter neck.
    - a. *Slender, Fl. sm.; upp. pet. apic.; pedicel slender—Fr. very sm., 2 mm., smooth subrot. ov. in prof.; subacute.*
    - b. *More robust, pedi. thicker—Fl. larger, upp. pet. more acute—Fr. larger, 2½ mm. often rugulose, obtuse in profile.*
    - c. *Short, stout, ls. oft. purplish—Fl. large deep coloured.*
    - d. *Fl. smaller than b—Sep. usually acum.—Fr. when fresh with broad neck.*
    - e. *Slender—Fl. smaller and paler than b—Sep. smaller = britannica Pugs.*
    - f. *Slender—Peduncles incurved—Fr. ped. slender, usually straight—Sep. acum. nearly ½ as long as cor. = gracilis Pugs.*
  3. Bract less than  $\frac{1}{2}$  as long as ped.—Sep. ov. toothed, less than  $\frac{1}{3}$  as long as cor.; inner pet. only tipped with purp.—Fr. rugose, its neck as broad or broader than tip of ped.
    - b. *Robust—Fl. lge., rosy-white tipped with dk. purp.—Fr. ped. straight and erect, or in lux. sp. arcuate, and decurved—Fr. lge. subrot., tuberc. rugose, when dry—Lr. pet. with broad spreading margin—Cornwall.*
  4. St. erect, branched—Sep.  $\frac{1}{2}$  as broad as tube of cor.—Common.
    - b. *St. rampant, lower lip abruptly enlarged.*
  5. St. diff. or erect—Sep. round, dent.,  $\frac{1}{2}$  as long and twice as broad as cor. tube—Lower pet. spath.
  6. St. diff. or erect—Ls. segm. channelled, glauc.—Sep. minute, lin.—Rac. dense—Pedi. as long as bract—Fr. sm. verrucose, pointed.
    - b. *Ls. segm. flat—Rac. lax.—Pedi. twice as long as bract.*
- Hybrids of  $2b \times 4$  and  $3 \times 4$  are recorded.

## ORD. VI.—CRUCIFERÆ.

Gen. I. *Mathiola*.

1. St. shrubby, erect—Ls. lanc. ent.—Fr. cylind.
2. St. herb. spread.—Ls. sinuate—Pod compr. muricate.

Gen. II. *Cheiranthus*.

- \*1. St. shrubby—Ls. lanc. ent.—Fr. tetrag.

Gen. III. *Radicula* = *Nasturtium*.

\* *Flowers white.*

1. Usually aquatic—Fl. white—Ls. pinn.; term. lft. larger and broader.
  - b. *Tall pl. 2-3 ft.—Stem thick—Term. lft. oblong, not broader than the lat.*
  - c. *Sm. prost. pl.—Slender—Lft. sm.*

ORD. VI.—CRUCIFERÆ (*continued*).

| Botanical Name.  | Common Name.                | Soil<br>or<br>Situation. | Colour.   | Growth.              | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------------|--------------------------|-----------|----------------------|--|
| <b>Gen. III. <i>Radicula</i></b><br>( <i>continued</i> ).<br>* * |                             |                          |           |                      |  |
| 2. <i>R. sylvestris</i> Druce .                                  | . . . . .                   | Wat. pl. . . .           | Y.        | 9-18 in.             | P. 6-9                                   |
| 3. <i>R. amphibia</i> Druce .                                    | <i>Water-Rocket</i> .       | Wat. pl. . . .           | Y.        | 2-3 ft.              | P. 6-8                                   |
| <i>b. indivisa</i> Druce .                                       | . . . . .                   | . . . . .                | . . . . . | . . . . .            | . . . . .                                |
| <i>c. variifolia</i> Druce .                                     | . . . . .                   | . . . . .                | . . . . . | . . . . .            | . . . . .                                |
| 4. <i>R. islandica</i> Druce .                                   | . . . . .                   | Wet pl. . . .            | Y.        | 6-18 in.             | P. 6-7                                   |
| <b>Gen. IV. <i>Barbarea</i> Br.</b>                              |                             |                          |           |                      |  |
| 1. <i>B. stricta</i> Fr. . . . .                                 | <i>Winter Cress</i> .       | Riv. bks. etc. L.        | Y.        | 1-2 ft.              | B. 5-7                                   |
| *2. <i>B. verna</i> Aschers. .                                   | <i>Amer. Cress</i> .        | Cult. gr. and<br>w. pl.  | Y.        | $\frac{3}{4}$ -2 ft. | B. 5-7                                   |
| 3. <i>B. vulgaris</i> Br. . . .                                  | <i>C. Winter Cress</i>      | Dp. pl. . . .            | Y.        | 1-2 ft.              | B. 5-8                                   |
| <i>b. lyrata</i>   |                             |                          |           |                      |  |
| <i>b. divaricata</i> Dyer. .                                     | . . . . .                   | . . . . .                | . . . . . | . . . . .            | . . . . .                                |
| <i>c. arcuata</i> (Reichb.)                                      | . . . . .                   | . . . . .                | . . . . . | . . . . .            | . . . . .                                |
| *4. <i>B. intermedia</i> Bor. .                                  | . . . . .                   | Cult. gr. L. .           | Y.        | 9-18 in.             | B. 5-8                                   |
| <b>Gen. V. <i>Arabis</i> L.</b>                                  |                             |                          |           |                      |  |
| *1. <i>A. Turrita</i> L. . . . .                                 | <i>Tower Cress</i> .        | Old walls. R.            | p Y.      | 1-2 ft.              | P. 5-6                                   |
| 2. <i>A. hirsuta</i> Br. . . . .                                 | <i>Hairy Rock C.</i>        | Dry bks. and<br>roc.     | W.        | 9-18 in.             | B. 6-8                                   |
| <i>b. glabrata</i> (Syme) .                                      | . . . . .                   | Turf nr. sea R.          | . . . . . | . . . . .            | . . . . .                                |
| 3. <i>A. ciliata</i> Br. . . . .                                 | <i>Fringed R. C.</i> .      | Irish sea sh. L.         | W.        | 4-6 in.              | B. 7-8                                   |
| <i>b. hispida</i> Syme . . . .                                   | . . . . .                   | . . . . .                | . . . . . | . . . . .            | . . . . .                                |
| 4. <i>A. scabra</i> All. . . . .                                 | <i>Bristol R. C.</i> .      | Calc. roc. R.            | W.        | 4-9 in.              | P. 4-5                                   |
| ( <i>A. stricta</i> Hud.)  |                             |                          |           |                      |  |
| 5. <i>A. alpina</i> L. . . . .                                   | <i>Alpine R.</i> . . . .    | Ro. in Skye<br>V. R.     | W.        | 4-9 in.              | P. 7-8                                   |
| 6. <i>A. petraea</i> Lam. . . .                                  | <i>Rock-cress</i> . . . .   | Mt. ro. L. . .           | W.        | 3-8 in.              | P. 7-8                                   |
| <i>b. hispida</i> DC. . . . .                                    | . . . . .                   | " " . . . . .            | . . . . . | . . . . .            | . . . . .                                |
| <i>c. grandifolia</i> Druce                                      | . . . . .                   | Sc. mt. ro. R.           | . . . . . | . . . . .            | . . . . .                                |
| 7. <i>A. glabra</i> Bernh. . .                                   | <i>Tower Mustard</i>        | Dry bks. L. . .          | yW.       | 1-3 ft.              | B. 5-7                                   |
| <b>Gen. VI. <i>Cardamine</i> L.</b>                              |                             |                          |           |                      |  |
| 1. <i>C. pratensis</i> L. . . .                                  | <i>Cuckoo-fl.</i> . . . .   | Mead. . . . .            | Li.       | 9-24 in.             | P. 4-6                                   |
| <i>b. dentata</i> Schultes                                       | " " . . . . .               | " " . . . . .            | . . . . . | 12-24                | . . . . .                                |
| <i>c. Hayneana</i> Welw.   | . . . . .                   | . . . . .                | W.        | 9-24                 | . . . . .                                |
| 2. <i>C. amara</i> L. . . . .                                    | <i>Bitter-cress</i> . . . . | Wat. pl. . . .           | W.        | 9-24 in.             | P. 4-6                                   |
| <i>b. erubescens</i> Peterm.                                     | . . . . .                   | . . . . .                | Ro.       | . . . . .            | . . . . .                                |
| 3. <i>C. impatiens</i> L. . . .                                  | <i>Impatient B. cr.</i>     | Calc. gr. roc.<br>wo. L. | W.        | 9-24 in.             | B. 6-9                                   |
| 4. <i>C. flexuosa</i> With. . .                                  | . . . . .                   | Sh. pl. . . . .          | W.        | 6-12 in.             | B. or P.<br>4-9                          |
| 5. <i>C. hirsuta</i> L. . . . .                                  | <i>Hairy B. cr.</i> . . . . | Open ground              | W.        | 4-12 in.             | A. 4-8                                   |
| 6. <i>C. bulbifera</i> Cr. . . .                                 | <i>Coral Wort</i> . . . .   | Wo. L. . . . .           | Li.       | 1-2 ft.              | P. 4-5                                   |



ORD. VI.—CRUCIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Radicula* (*continued*).\* \* *Flowers yellow.*

2. Rt. creep.—Ls. pinn.—Pet. twice as long as sep.—Pods lin.
3. Rt. stolonif.—Ls. lanc. serr. or pinnfid. ; pet. twice as long as sep.—Pod obl., shorter than the stalk.
  - b. Ls. entire serrate.*
  - c. Lr. ls. pinnfid., upper sub-entire, without auricles.*
4. Rt. fibr.—Ls. pinnfid.—Pet. not longer than sep.—Pod turgid, obl.

Gen. IV. *Barbarea*.

1. Pods in dense raceme—Pet.  $\frac{1}{2}$  as long again as sep. ent. yel.—Fl. buds downy.
- \*2. Ls. pinnfid.—Seeds  $\frac{1}{4}$  longer than broad—Pet. thrice as long as sep.—Ped. short stout.
3. Lr. ls. pinn.—Seeds  $1\frac{1}{2}$  as long as broad—Pet. twice as long as sep.—Fl. buds glab.—Pods erect—Pet. with whitish claw.
  - b. Pods spreading—Seeds  $1\frac{1}{2}$  times as long as broad.*
  - c. Pods spreading—Seeds twice as long as broad.*
- \*4. Ls. segm. many—Raceme dense—Pet. twice as long as sep.—Seeds as long as broad.

Gen. V. *Arabis*.

- \*1. Ls. ent. stellate-hairy ; stem ls. amplex.—Pods 4-6 in. long, recurved.
2. Ls. all hispid-toothed—St. ls. semi-amplex.—Pods 1-1 $\frac{1}{2}$  in. long, erect, adpr.
  - b. St. and ls. smooth, ciliate at margin—Eastbourne, Irish Coast.*
3. Ls. ob. ov. ciliate—St. ls. sessile ellip.—Pods erect.
  - b. Ls. hispid with bi-trifurcate hairs.*
4. Hispid ; Ls. deep gr. obt. sinuate-lobed—St. ls. semi-amplex.—Pet. narrow cuneate—Pods sub-erect.
5. Barren shoots decumb.—Ls. obl.-ob., attenuated into stalk—St. ls. lanc. auricled and spread.—Pet. lge.—Pods spread.
6. Ls. stalked, lyrate-pinnfid.—St. ls. ent.—Pods spr.—Pets. broadly clawed.
  - b. Ls. hispid.*
  - c. Ls. sub-ent.—Pet. twice as long as 6 and b.*
7. St. very erect—Ls. toothed—St. ls. glab. glauc. ent. auricled—Pods many crowded erect—Seeds in 2 rows—= *Turritis glabra* L.

Gen. VI. *Cardamine*.

1. Lfts. of st. ls. ent.—Stam.  $\frac{1}{2}$  as long as pet.—Anth. yellow.—Pet. 10 mm. ; lilac.
  - b. Taller, stronger, lfts. more angled.—Pet. 15 mm. ; white.*
  - c. Lfts. small narrow—Pets. small narrow—Perhaps a hybrid 1 and 5.*
2. Lfts. of st. ls. ang.—Stam. as long as pet.—Anth. violet.
  - b. Flowers more or less suffused with pink or rose.*
3. Lfts. lanc. narrow sharply cut—Petiole with sagitt. ciliated stip.—Pet. lin. or ov.
4. Stem wavy—No stip.—Pl. rather lax—Pet. small—Stam. 6.
5. Stem nearly straight—Pl. rather stiff—No stip.—Pet. small—St. 4.
6. Lower ls. pinn.—Upper simp. ent. often with bulbils in axils—Rootstock white, scaly—Pet.  $\frac{1}{2}$ - $\frac{3}{4}$  in. white or lilac—= *Dentaria bulbifera* L.



ORD. VI.—CRUCIFERÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil<br>or<br>Situation.     | Colour.         | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|------------------------------|-----------------|-----------|--|
| <b>Gen. VII. Alyssum L.</b>  |                          |                              |                 |           |  |
| * <sub>1</sub> . <i>A. Alyssoides L.</i><br>( <i>A. calycinum L.</i> ) | . . . .                  | Cult. gr. . . .              | p Y.            | 3-8 in.   | A. 6-8                                   |
| * <sub>2</sub> . <i>A. incanum L.</i> . . .                            | . . . .                  | W. pl. . . .                 | W.              | 6-15 in.  | A. or B.<br>6-9                          |
| * <sub>3</sub> . <i>A. maritimum Lam.</i>                              | . . . .                  | Sea coast w.<br>pl.          | W.              | 4-12 in.  | P. 6-9                                   |
| <b>Gen. VIII. Draba L.</b>   |                          |                              |                 |           |  |
| 1. <i>D. aizoides L.</i>   | <i>Yell. Alp. Cress</i>  | Ro. and walls<br>Glam. V. L. | Y.              | 2-5 in.   | P. 3-5                                   |
| 2. <i>D. rupestris Br.</i> . . .                                       | <i>Rock-cress</i> . . .  | S. mt. ro. V. R.             | W.              | 1-2       | P. 6-7                                   |
| 3. <i>D. incana L.</i> . . .   | <i>Hoary R. C.</i> . . . | Mt. ro. and<br>sea coast. L. | W.              | 2-10      | P. 6-7                                   |
| <i>b. confusa (Ehrh.)</i>  | . . . .                  | Mt. ro. V. R.                | W.              | 2-10      | P. 6-7                                   |
| 4. <i>D. muralis L.</i>  | <i>Wall R. C.</i> . . .  | Calc. pl. L.                 | W.              | 4-12      | A. 4-5                                   |
| <b>Gen. IX. Erophila DC.</b>   |                          |                              |                 |           |  |
| 1. <i>E. verna Mey.</i> . . .  | <i>Whitlow Grass</i> .   | Walls, dry pl.               | W.              | 1-6 in.   | A. 3-6                                   |
| <i>b. praecox (Stev.)</i>  | „ „                      | „ „ L.                       | W.              | 1-4 in.   | A. 3-6                                   |
| <i>c. inflata (Hook. f)</i>  | „ „                      | Mt. ro. R. .                 | W.              | 1-3 in.   | A. 3-7                                   |
| <b>Gen. X. Cochlearia L.</b>   |                          |                              |                 |           |  |
| * <sub>1</sub> . <i>C. Armoracia L.</i> . . .                          | <i>Horse-radish</i> .    | Riv. bk. w. pl.              | W.              | 2-3 ft.   | P. 5-7                                   |
| 2. <i>C. officinalis L.</i> . . .                                      | <i>Scurvy Grass</i> .    | Sea coast . .                | W.              | 4-10 in.  | P. 5-8                                   |
| 3. <i>C. alpina (Wats.)</i> .  | <i>Alpine S. G.</i> .    | Mts. L. . . .                | W.              | 4-12 in.  | P. 6-8                                   |
| <i>b. micacea (E. S. Marsh.)</i>                                       | „ „                      | „ R. . . .                   | W.              | 2-4 in.   | B. 6-8                                   |
| 4. <i>C. scotica Druce</i> .   | <i>Northern S. G.</i>    | Scot. coast L.               | W.              | 2-6 in.   | B. ? 6-8                                 |
| 5. <i>C. anglica L.</i> . . .  | <i>Engl. S. G.</i> . . . | Mud, littoral .              | W.              | 10-18 in. | A. ? 5-6                                 |
| <i>b. Hortii Syme.</i> . . .   | . . . .                  | . . . .                      | . . . .         | . . . .   | . . . .                                  |
| 6. <i>C. danica L.</i> . . .   | <i>Stalked S. G.</i> .   | Coast . . . .                | W.<br>or<br>pu. | 1-12 in.  | B. 4-6                                   |
| <b>Gen. XI. Hesperis L.</b>  |                          |                              |                 |           |  |
| * <sub>1</sub> . <i>H. matronalis L.</i> .                             | <i>Dame's Violet</i> .   | Plants. etc. L.              | Li.             | 2-3 ft.   | B. 5-6                                   |
| <b>Gen. XII. Sisymbrium L.</b>   |                          |                              |                 |           |  |
| 1. <i>S. Sophia L.</i> . . .   | <i>Flixweed</i> . . .    | W. pl. L. . .                | p Y.            | 1-2 ft.   | A. 6-8                                   |
| * <sub>2</sub> . <i>S. altissimum L.</i> .                             | . . . .                  | W. pl. . . .                 | p Y.            | 1-2 ft.   | A. 6-8                                   |
| * <sub>3</sub> . <i>S. Irio L.</i> . . . .                             | <i>London Rocket</i> .   | W. pl. R. . .                | Y.              | 1-2 ft.   | A. 6-8                                   |
| 4. <i>S. officinale Scop.</i> .  | <i>Hedge Mustard</i>     | Waysides . .                 | Y.              | 1-3 ft.   | B. 6-7                                   |
| <i>b. leiocarpum DC.</i>   | . . . .                  | „ L. . . .                   | . . .           | . . .     | . . .                                    |

ORD. VI.—CRUCIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. VII. Alyssum.**

- \*1. Stellately hoary—Ls. ob. lanc.—Pods pubesc.—Sep. persis.—Pet. yel.
- \*2. Hoary ls. lanc. cal. decid.—Pods ellip. many seeded—Fl. wh.
- \*3. Procumb. stiff.—Ls. lin.-lanc.—Pod oval pointed glab. 1 seeded—Pet. wh.

**Gen. VIII. Draba.**

- 1. Stiff tufted per., ls. rigid. cil.—Fls. yell.
- 2. St. almost leafless very short; radic. ls. tufted—Pods sm. straight—Fl. wh.
- 3. St. with a few ls. rad. ls. spread—Pods twisted, glabr.
- b. Pods stellately hairy.*
- 4. St. slender flex.—Ls. cord. hairy, pedic. spread. horizont.—Pets. entire—Pods flat, obt.

**Gen. IX. Erophila = Draba p.p. of last edit.**

- 1. St. naked—Ls. lanc. toothed, hairy—Pet. deeply notched—Pod compr. obov. lanc.
- b. „ „ „ —Pod compr. orbic. obl.*
- c. „ „ „ —Pod turgid ovoid-obl.*

**Gen. X. Cochlearia.**

- \*1. Rad. ls. lge. obl.; cren., long stalked—St. ls. lanc. sess.—Root cylind. pungent.
- 2. Rad. ls. cordate—St. ls. sess. obl. sin.—Pod glob. or obov.—Style very short.
- 3. Rad. ls. broadly cord.—St. ls. triang. 3-lobed or broad-ov. 4-6 toothed—Pod obov. narrowed at both ends.
- b. A small prost. pl.—Sm. ls.—Pod 1½-3 times as long as broad—High Scotch Mts.*
- 4. Rad. ls. fleshy orb.-sess. ent.—Upp. st. ls. sessile ellip. lanc. or ov. spath.—Pod sub-glob.
- 5. Rad. ls. stalked ov. obl. or obov. not cord.—Pod large ¼-½ in. ov. obl.—Style slender.
- b. Rad. ls. rounded at base, pod smaller ellipsoid.*
- 6. St. ls. stalked 3-5 lobed upper ls. sub-sess. lobed—Pod ovoid.

**Gen. XI. Hesperis.**

- \*1. St. erect—Ls. ov. lanc. acum. toothed—Fl. lilac, large, fragrant—Pods erect.

**Gen. XII. Sisymbrium.**

- 1. St. slightly hairy—Ls. bi-pinnfid. segm. lin.—Pl. erect, strong.
- \*2. St. slightly hairy—Lower ls. runc. pinnfid., auricled at base, sepals patent, pods spreading. (*S. pannonicum* of last edit.)
- \*3. St. glab.—Ls. runc. glab.—Pods terete erect—Pl. erect, strong.
- 4. St. hairy—Ls. runc. hairy—Pods subulate adpr., hairy—Pl. erect, strong.
- b. Pods glabrous.*

ORD. VI.—CRUCIFERÆ (*continued*).

| Botanical Name.   | Common Name.                     | Soil or Situation.          | Colour. | Growth.              | Duration and time of flowering. |
|---|----------------------------------|-----------------------------|---------|----------------------|---------------------------------|
| <b>Gen. XII. Sisymbrium L.</b><br>( <i>continued</i> ). |                                  |                             |         |                      |                                 |
| 5. <i>S. Thaliana</i> (L.) . .                          | <i>Thale Cress</i> . .           | Dry fie. walls etc.         | yW.     | $\frac{1}{2}$ –1 ft. | A. 5–9                          |
| 6. <i>S. Alliaria Scop.</i> . .                         | <i>Jack by the Hedge</i>         | Hed. and wo.                | W.      | 2–3 ft.              | B. 5–6                          |
| <b>Gen. XIII. Erysimum L.</b>                           |                                  |                             |         |                      |                                 |
| 1. <i>E. Cheiranthoides</i> L.                          | <i>Treacle Mustard</i>           | Cult. gr. . .               | Y.      | $\frac{1}{2}$ –2 ft. | A. 6–8                          |
| *2. <i>E. repandum</i> L. . .                           | . . . . .                        | W. pl. R. . .               | pY.     | $\frac{1}{2}$ –1 ft. | A. 6–8                          |
| <b>Gen. XIV. Conringia</b><br><i>Adans.</i>             |                                  |                             |         |                      |                                 |
| *1. <i>C. orientalis</i> Dum. . .                       | <i>Hare's ear — Treac. Must.</i> | W. pl. . . .                | yW.     | 1–2 ft.              | A. 6–9                          |
| <b>Gen. XV. Camelina Cr.</b>                            |                                  |                             |         |                      |                                 |
| *1. <i>C. sativa</i> Cr. . . .                          | <i>Gold of Pleasure</i>          | Fields & w. pl. R.          | Y.      | 1–3 ft.              | A. 6–7                          |
| *b. <i>foetida</i> (Fr.) . . .                          | . . . . .                        | . . . . .                   | . .     | . .                  | . .                             |
| <b>Gen. XVI. Subularia L.</b>                           |                                  |                             |         |                      |                                 |
| 1. <i>S. aquatica</i> L. . . .                          | <i>Water Axl-wort</i>            | Margin of subalp. lakes. L. | W.      | 1–3 in.              | P. 7–8                          |
| <b>Gen. XVII. Brassica L.</b>                           |                                  |                             |         |                      |                                 |
| 1. <i>B. oleracea</i> L. . . .                          | <i>Sea Cabbage</i> . .           | Sea cliffs. L.              | Y.      | 1–2 ft.              | B. 6–8                          |
| 2. <i>B. campestris</i> L. . .                          | . . . . .                        | Cult. gr. . . .             | Y.      | . . .                | . . .                           |
| *a. <i>Napus</i> (L.) . . . .                           | <i>Rape</i> . . . . .            | " . . . . .                 | Y.      | 1–3 ft.              | B. 6–8                          |
| *b. <i>Rutabaga</i> (DC.) . .                           | <i>Swede</i> . . . . .           | " . . . . .                 | Buff    | 1–3 ft.              | B. 3–9                          |
| c. <i>Rapa</i> (L.) . . . .                             | <i>Wild Turnip</i> . .           | Riv. bk. . . .              | Y.      | 1–3 ft.              | B. 5–7                          |
| *d. <i>Briggsii</i> (Wats.) . .                         | . . . . .                        | Cult. gr. . . .             | Y.      | 6–18 in.             | A. 5–9                          |
| 3. <i>B. monensis</i> Huds. .                           | <i>Isle of Man Cabb.</i>         | W. Sea Coast. R.            | Y.      | $\frac{1}{2}$ –2 ft. | B. 6–8                          |
| 4. <i>B. Cheiranthus</i> Vill.                          | . . . . .                        | Dry pl. Chan. Isles         | Y.      | 1–3 ft.              | B. 6–8                          |
| 5. <i>B. nigra</i> Koch . . .                           | <i>Black Mustard</i>             | River bk. way-sides, etc.   | Y.      | 1–4 ft.              | A. 6–8                          |
| 6. <i>B. arvensis</i> Kuntze .                          | <i>Charlock</i> . . .            | Cult. gr. . . .             | Y.      | 1–2 ft.              | A. 6–8                          |
| ( <i>Sinapis arvensis</i> L.)                           |                                  |                             |         |                      |                                 |
| 7. <i>B. alba</i> Boiss. . . .                          | <i>White Must.</i> . .           | Cult. gr. . . .             | Y.      | 1–3 ft.              | A. 6–8                          |
| *8. <i>B. Pollichii</i> Druce .                         | . . . . .                        | Cult. gr. w. pl. R.         | wY.     | 1–2 ft.              | A. 6–8                          |
| ( <i>Erucastrum Pollichii</i> )                         |                                  |                             |         |                      |                                 |
| 9. <i>B. incana</i> Doell. . .                          | <i>Hoary Must.</i> . .           | Waysides, Ch. Isles. L.     | Y.      | 1–3 ft.              | B. 6–8                          |
| ( <i>B. adpressa</i> <i>Sinapis incana</i> )            |                                  |                             |         |                      |                                 |



ORD. VI.—CRUCIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XII. Sisymbrium** (*continued*).

5. Ls. nearly all rad., obl. lanc. toothed pubes.—Pods asc. with 4 obtuse angles—Pl. weak.
6. Ls. large cord. stalked, much veined, garlic odour when bruised—Pods erect on short stout pedi.—Pl. strong.

**Gen. XIII. Erysimum.**

1. St. stiff erect, ls. lanc. ent. or slightly lobed, with trifid hairs.
- \*2. Pl. spread., ls. lanc. repand-dentate—Pods obtuse quadrang. spreading—Hairs simple.

**Gen. XIV. Conringia.**

- \*1. Ls. ellip. cord. ent. amplex. glauc.; rad. ls. obtuse—Fl. yell. wh.

**Gen. XV. Camelina.**

- \*1. Rad. ls. stalked—St. ls. narrow auricled—Pod obov. inflated, rounded at base, valves brittle.
- \*b. *Pod truncate at apex, valves leathery.*

**Gen. XVI. Subularia.**

1. Ls. 1-3 rad., subulate—Roots of long white fibres—Fls.  $\frac{1}{10}$  in. submerged.

**Gen. XVII. Brassica.**

1. Rt. fleshy, cylindr.—Ls. all glab. and glauc., upper not auricled.
2. Rad. ls. more or less hisp., upper ones auricled.
  - \*a. *Ls. glaucous, root slender, spindle-shaped.*
  - \*b.        ,,       *rt. tuberous, neck elongated.*
  - c. *Ls. green, hispid, stem ls. glauc. and glab.—Fls. bright yellow.*
  - \*d.        ,,       *—Pl. annual.*
3. St. prost., leafless—Rad. ls. deeply pinnfid. glab.
4. St. erect, branched, leafy, hispid below.
5. Upp. ls. lin. lanc. ent. glab.—Pod adpr., 4-angled, beak short, seedless.
6. Ls. oval, lyr.—Pods spread., longer than beak, valve 3 nerved scabrous.
7. Ls. lyr. pinnfid.—Pods hisp., spread., valve 5 nerved, shorter than beak, which is sometimes 1 seeded—Plant hispid with reflexed hairs.
- \*8. Ls. deeply pinnfid., rac. bracteate below; pods patent, lin. 1 nerved.
9. St. much branched—Ls. hispid lyr. upper quite ent.—Pod adpr. lin., beak 1 seeded.

ORD. VI.—CRUCIFERÆ (*continued*).

| Botanical Name.   | Common Name.            | Soil<br>or<br>Situation.   | Colour.          | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|----------------------------|------------------|----------|--|
| <b>Gen. XVIII. Diplotaxis</b><br><i>DC.</i>   |                         |                            |                  |          |  |
| 1. <i>D. tenuifolia</i> <i>DC.</i> .  | <i>Wall Rocket</i> .    | Walls & w. pl.<br>L.       | Y.               | 1-2 ft.  | P. 6-9                                   |
| *2. <i>D. muralis</i> <i>DC.</i> . .  | <i>Wall Rocket</i> .    | W. pl. railway<br>ballast. | Y.               | 6-18 in. | A. or B.<br>6-9                          |
| <i>b. Babingtonii</i><br><i>Syme</i>  | . . . .                 | . . . .                    | . .              | 9-24     | B. 6-9                                   |
| <b>Gen. XIX. Capsella</b><br><i>Med.</i>  |                         |                            |                  |          |  |
| 1. <i>C. Bursa-pastoris</i> <i>Med.</i>   | <i>Shepherd's Purse</i> | Cult. gr. w. pl.<br>etc.   | W.               | 6-18 in. | A. 2-11                                  |
| <b>Gen. XX. Coronopus</b><br><i>Haller</i>  |                         |                            |                  |          |  |
| 1. <i>C. didymus</i> <i>Sm.</i> . .   | <i>Wart-cress</i> . .   | W. pl. L. . .              | W.               | Cr. 6-12 | A. or B.<br>6-9                          |
| 2. <i>C. procumbens</i> <i>Gilib.</i><br>( <i>C. Ruellii</i> = <i>Se-<br/>nebiera Coronopus</i> ) | <i>Swine's Cress</i> .  | W. pl. . . .               | W.               | Cr. 3-8  | A. 6-9                                   |
| <b>Gen. XXI. Lepidium</b> <i>L.</i>   |                         |                            |                  |          |  |
| 1. <i>L. latifolium</i> <i>L.</i> . .   | <i>Dittander</i> . .    | Salt mar. L. .             | W.               | 2-4 ft.  | P. 7-8                                   |
| *2. <i>L. Draba</i> <i>L.</i> . . .   | <i>Hoary Cress</i> .    | W. pl. . . .               | W.               | 1-2 ft.  | P. 5-6                                   |
| 3. <i>L. ruderales</i> <i>L.</i> . .  | . . . .                 | W. pl. . . .               | W.               | 6-12 in. | A. 5-7                                   |
| *4. <i>L. sativum</i> <i>L.</i> . .   | <i>Garden Cress</i> .   | W. pl. . . .               | W.               | 6-18 in. | A. 6-8                                   |
| 5. <i>L. campestre</i> <i>Br.</i> .   | <i>Field Cress</i> . .  | Fie. . . .                 | W.               | 6-12 in. | B. 6-8                                   |
| 6. <i>L. Smithii</i> <i>Hook.</i> .   | <i>Smith's Cress</i> .  | Fie. Bks. . .              | W.               | 6-12 in. | P. 6-8                                   |
| <i>b. alatostylum</i><br>( <i>Towns.</i> )  | . . . .                 | R. . . .                   | . .              | . .      | . .                                      |
| <i>c. hirtum</i> ( <i>DC.</i> ) .   | . . . .                 | ? Perth . .                | . .              | . .      | . .                                      |
| <b>Gen. XXII. Thlaspi</b> <i>L.</i>   |                         |                            |                  |          |  |
| 1. <i>T. arvense</i> <i>L.</i> . . .  | <i>Penny-cress</i> . .  | Cult. gr. . .              | W.               | 6-18 in. | A. 5-7                                   |
| 2. <i>T. perfoliatum</i> <i>L.</i> .  | <i>Perfoliate P.</i> .  | Calc. pl. V. R.            | W.               | 3-8 in.  | A. 4-5                                   |
| 3. <i>T. alpestre</i> <i>L.</i> . .   | <i>Alpine P.</i> . .    | Stony pl., mt.<br>past. L. | W.               | 4-15 in. | B. or P.<br>5-8                          |
| <i>b. occitanicum</i><br>( <i>Jord.</i> )   | . . . .                 | Settle,<br>N. Wales, R.    | <i>li.</i><br>W. | 6-10     | 5-8                                      |
| <i>c. virens</i> ( <i>Jord.</i> ) .   | . . . .                 | Matlock. L.                | . .              | 6-10     | 5-8                                      |

ORD. VI.—CRUCIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XVIII. Diplotaxis.**

1. St. leafy, branched, woody below ; subglab. ls. glauc.—Pod narrowed at both ends.—Flowers stalked.
  - \*2. St. simple, nearly leafless, hispid—Ls. glab.—Pod narrowed at top only.—Fls. nearly sessile.
- b. Stem leaves several, larger; biennial pl.*

**Gen. XIX. Capsella Med. = Bursa Web.**

1. Pod triang. ob. cord.—Rad. ls. pinnfid. rarely subent.—Very variable.

**Gen. XX. Coronopus = Senebiera.**

1. Rac. dense—Ls. finely cut—Pod notched, slightly wrinkled, on slend. pedi.
2. Rac. lax—Ls. coarsely cut—Pod ent. deeply wrinkled, sessile.  
(*C. verrucarius* of last Edition.)

**Gen. XXI. Lepidium.**

1. Ls. oval-lanc., ent., toothed—Pod oval, downy—Style minute.
  - \*2. Ls. obl. ent.—Pod cordate—Style as long as pod.
  3. Lower ls. bipinnfid.—St. ls. lin. ent.—Fl. sm. usually apic.—Pod oval—Sty. sm.—Sta. 2.
  - \*4. Lower ls. pinnfid. or bipinnfid.—Upper ls. lin. ent.—Pod roundish, oval—Taste pungent—Sta. 6.
  5. St. simp. erect, branched at top—Sty. not longer than notch—Anth. yell.—Pod papillose.
  6. St. branched from base—Sty. longer than notch—Anth. viol.—Pod nearly smooth.
- b. Pod not notched.*
- c. Pod hairy—To be looked for*

**Gen. XXII. Thlaspi.**

1. St. ls. obl. sagitt. toothed, glabr.—Pod ( $\frac{1}{2}$  in.) orbic. broadly winged.
  2. St. ls. deeply cord. obl. glabr. and glauc.—Pod ( $\frac{1}{8}$ – $\frac{1}{4}$  in.) obcordate, sty. shorter than notch.
  3. St. ls. narrow cord. sagitt. glab. and glauc.—Pods ( $\frac{1}{4}$  in.) obl. ov.—Sty. as long as notch.
- b. Sty. longer than notch—Pod triang.—Rac. obl.*
- c. Sty. appearing longer than notch—Pod truncate, emarg. at apex—Ls. nearly ent.*



ORD. VI.—CRUCIFERÆ (*continued*).

| Botanical Name.                            | Common Name.          | Soil<br>or<br>Situation.                  | Colour.   | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------|---|---|---------|--|
| <b>Gen. XXIII. Iberis</b> <i>L.</i>        |                       |   |   |         |  |
| 1. <i>I. amara</i> <i>L.</i> . . .         | <i>Candytuft</i> . .  | Cult. chalky<br>fie. <i>L.</i>            | W.<br>or<br><i>pu.</i><br>W.<br><i>vi.</i><br>Pu. | 4-12    | A. 7-9                                   |
| <i>b. ruficaulis</i> <i>Lej.</i> .         | . . . .               | . . . .                                   |   | 4-8     | . .                                      |
| <b>Gen. XXIV. Teesdalea</b><br><i>Br.</i>  |                       |   |   |         |  |
| 1. <i>T. nudicaulis</i> <i>Br.</i> .       | . . .                 | Sandy & grav.<br>pl. <i>L.</i>            | W.  | 5-12    | A. 4-7                                   |
| <b>Gen. XXV. Hutchinsia</b><br><i>Br.</i>  |                       |   |   |         |  |
| 1. <i>H. petraea</i> <i>Br.</i> . .        | . . . .               | Calc. roc. pl. &<br>sand dunes. <i>L.</i> | W.  | 2-4 in. | A. 3-5                                   |
| <b>Gen. XXVI. Isatis</b> <i>L.</i>         |                       |   |   |         |  |
| 1. <i>I. tinctoria</i> <i>L.</i> . .       | <i>Woad</i> . . . .   | Ch. pits, riv.<br>bks. <i>R.</i>          | Y.  | 1-4 ft. | B. 7-9                                   |
| <b>Gen. XXVII. Crambe</b> <i>L.</i>        |                       |   |   |         |  |
| 1. <i>C. maritima</i> <i>L.</i> . .        | <i>Sea Kale</i> . . . | Sea cliffs &<br>shingle. <i>R.</i>        | W.  | 1-3 ft. | P. 6-8                                   |
| <b>Gen. XXVIII. Cakile</b><br><i>Mill.</i> |                       |   |   |         |  |
| 1. <i>C. maritima</i> <i>Scop.</i> :       | <i>Sea Rocket</i> . . | Sandy coast .                             | Li.   | 1-2 ft. | A. 6-8                                   |
| <i>b. sinuatifolia</i> <i>DC.</i>          | . . . .               | . . . .                                   | . .   | . .     | . .                                      |
| <b>Gen. XXIX. Raphanus</b><br><i>L.</i>    |                       |   |   |         |  |
| 1. <i>R. Raphanistrum</i> <i>L.</i>        | <i>Wild Radish</i> .  | Cult. fie. . .                            | Y. or<br>Li.                                      | 1-2 ft. | A. 6-7                                   |
| 2. <i>R. maritimus</i> <i>Sm.</i> .        | <i>Sea Radish</i> . . | Sea coast. <i>L.</i>                      | Y.  | 1-4 ft. | B. 6-8                                   |

## ORD. VII.—RESEDACEÆ.

|                                      |                                     |                |             |         |        |
|--------------------------------------|-------------------------------------|----------------|-------------|---------|--------|
| <b>Gen. I. Reseda</b> <i>L.</i>      |                                     |                |             |         |        |
| *1. <i>R. alba</i> <i>L.</i> . . . . | <i>W. Mignonette</i>                | W. pl. . . .   | W.          | 1-2 ft. | B. 7-8 |
| 2. <i>R. lutea</i> <i>L.</i> . . . . | <i>Wild</i> „                       | Ch. & sa. fie. | <i>p</i> Y. | 1-2 ft. | B. 6-8 |
| 3. <i>R. Luteola</i> <i>L.</i> . . . | <i>Dyer's Weed.</i><br><i>Weld.</i> | W. pl. . . .   | <i>p</i> Y. | 2-3 ft. | B. 7-9 |

ORD. VI.—CRUCIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXIII. Iberis.**

1. St. branched—Ls. obl. lanc. toothed—Outer pet. radiant.

*b. Ls. narrower, cal. viol. pet. viol.-purp.—Stem purplish.*

**Gen. XXIV. Teesdalea.**

1. Ls. lyr. pinnfid. in rosette—Pet. 2 outer twice as long as others.

**Gen. XXV. Hutchinsia.**

1. Ls. pinnfid., seg. ent. much branched from base—Fl. sm., pet. abt. size of sep.

**Gen. XXVI. Isatis.**

1. Rad. ls. obl. cren.—St. ls. sagitt.—Pod ( $\frac{1}{2}$  in.) narrow pendent.

**Gen. XXVII. Crambe.**

1. Ls. broad waved, glauc.—Root fleshy—Upper joint of pod globose, fleshy.

**Gen. XXVIII. Cakile.**

1. Branches zig-zag—Ls. fleshy pinnfid.—Pod (1 in.) erect, with four sharp angles.  
*b. Ls. sinuate sub-entire.*

**Gen. XXIX. Raphanus.**

1. Ls. simp. lyr. segm. not contiguous—Pod shorter than the long beak.  
2. Rad. ls. interrupt. pinn. segm. approx.—Pod longer than short beak.

## ORD. VII.—RESEDACEÆ.

**Gen. I. Reseda.**

- \*1. Ls. divided, pinn. segm. ent.—Pet. white, 5 or 6, all divided.  
2. Ls. divided, pinn. or trifid; segm. sometimes divided—Pet. yell., one ent.—Sep. 5.  
3. Ls. undivided—Sep. 4.

## ORD. VIII.—CISTACEÆ.

| Botanical Name.                             | Common Name.           | Soil or Situation.             | Colour. | Growth.  | Duration and time of flowering. |
|---|------------------------|--------------------------------|---------|----------|---------------------------------|
| <b>Gen. I. Helianthemum</b><br><i>Mill.</i> |                        |                                |         |          |                                 |
| 1. <i>H. guttatum</i> <i>Mill.</i> .        | <i>Sp. Rock-rose</i> . | Heathy pl. L.<br>Ch. Is., Cork | Y.      | 4-12 in. | A. 5-8                          |
| <i>b. Breweri</i> ( <i>Planch.</i> )        | <i>Brewer's R.</i> .   | Anglesey V.R.                  | ..      | 2-4 in.  | A. 6-7                          |
| 2. <i>H. Chamæcistus</i> <i>Mill.</i>       | <i>Rock-rose</i> . .   | Calc. past. .                  | Y.      | 3-10 in. | P. 7-9                          |
| <i>b. tomentosum</i> ( <i>Sm.</i> )         | . . . .                | . . . .                        | ..      | . .      | . .                             |
| 2 & 3. <i>× polifolium</i> .                | . . . .                | . . . .                        | ..      | . .      | . .                             |
| 3. <i>H. polifolium</i> <i>Mill.</i>        | <i>Wh. R.</i> . . .    | Slopes nr. sea<br>Dev. Som. L. | W.      | 3-10 in. | P. 5-7                          |
| 4. <i>H. canum</i> <i>Baumg.</i> .          | <i>Hoary R.</i> . .    | Calc. pl. L. .                 | Y.      | 6-8 in.  | P. 5-7                          |
| <i>b. vineale</i> ( <i>Pers.</i> ) .        | . . . .                | Yorks. . . .                   | ..      | . .      | 6-7                             |

## ORD. IX.—VIOLACEÆ.

|   |                        |                             |              |          |        |
|---|------------------------|-----------------------------|--------------|----------|--------|
| <b>Gen. I. Viola</b> <i>L.</i>                    |                        |                             |              |          |        |
| 1. <i>V. stagnina</i> <i>Kit.</i> .               | <i>Bog Violet</i> . .  | Fens. R. . .                | <i>b</i> W.  | 2-6 in.  | P. 4-6 |
| <i>= persicifolia</i> <i>Roth</i>                 |                        |                             |              |          |        |
| 2. <i>V. montana</i> <i>L.</i> . .                | <i>Lge. Bog V.</i> . . | Fens. V. R. .               | <i>b</i> W.  | 6-12 in. | P. 4-6 |
| 3. <i>V. sylvestris</i> <i>Kit.</i> .             | <i>Dog V.</i> . . .    | Woods and<br>sh. pl.        | <i>p</i> B.  | 2-6 in.  | P. 3-5 |
| <i>b. leucantha</i> ( <i>Cel.</i> ) .             | . . . .                | Hedge-rows,<br>etc.         | . .          | . .      | . .    |
| <i>c. punctata</i> <i>Dr.</i> . .                 | . . . .                | . . . .                     | . .          | . .      | . .    |
| 4. <i>V. Riviniana</i> <i>Reichb.</i>             | <i>Dog V.</i> . . .    | Woods,<br>Heaths, etc.      | <i>vi</i> B. | 2-6 in.  | P. 4-9 |
| <i>b. nemorosa</i> ( <i>N.W.</i><br>& <i>M.</i> ) | . . . .                | . . . .                     | . .          | . .      | . .    |
| <i>c. flavicornis</i><br>( <i>Forst.</i> )        | . . . .                | Dry heaths<br>and co.       | . .          | 1-2 in.  | . .    |
| 5. <i>V. rupestris</i> <i>Schmidt.</i>            | . . . .                | Calc. pl. V. R.<br>Teesdale | Vi.          | 1-3 in.  | B. 5-6 |
| 6. <i>V. canina</i> <i>L.</i> . . .               | <i>Dog V.</i> . . .    | Heathy pl.<br>Sea sh. etc.  | B. or<br>Vi. | 2-4 in.  | P. 4-6 |
| <i>b. flavicornis</i> ( <i>Sm.</i> )              | . . . .                | Heaths, etc.                | . .          | 1-4 in.  | . .    |
| <i>c. calcarea</i> <i>Reichb.</i>                 | . . . .                | Hillsides . .               | . .          | 1-3 in.  | . .    |
| <i>d. crassifolia</i><br>( <i>Grönv.</i> )        | . . . .                | Fens . . . .                | . .          | 4-6 in.  | . .    |
| 7. <i>V. lactea</i> <i>Sm.</i> . .                | . . . .                | Heaths. L. .                | <i>p</i> B.  | 3-5 in.  | P. 5-6 |



## ORD. VIII.—CISTACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Helianthemum*.

1. Erect annual, ebracteate—Pet. spotted with choc. at base—Lr. ls. opp. upper alternate.  
*b. Pedicels usually bracteate—Cork, Galway, Anglesey.*
2. Diffuse proc. shrub—Leaf with 2 stip. opp.—Fl. yell.  
*b. Ls. white hoary below, upper surface with simp. or stell. hairs.*  
*× a hybrid of 2 and 3, pale yellow flowers and ls. downy above.*
3. Diffuse proc. shrub, ls. hoary on both sides, opp. stipulate—Fl. white.
4. Diffuse proc. shrub, ls. hoary on both sides—No stip.—Fl. sm. yell.  
*b. Upper surface of leaves nearly glabrous—Teesdale.*

## ORD. IX.—VIOLACEÆ.

Gen. I. *Viola*.

1. Rootstock creep.—Ls. obl. lanc., long, narrowed grad. from base—Pet. roundish, whitish tinged with pale blue, spur green—Caps. trigonous—Rare—3 counties only—Hybrid 1 × 2 in Hunts.
2. Rootstock cr.—Ls. obl. lanc., long, narrowed grad. from base—Fl. nearly circ., bluish white or pale blue—Spur green—Very rare—Hunts. only.
3. St. short diff.—Ls. cord. prolonged, dk. gr.—Pet. lilac, narrow—Spur slend. purp. ; not furrowed—Calyc. appendage small, roundish.  
*b. Pet. very narrow, fl. white, or nearly so.*  
*c. Pet. very sm., lilac, with dark blotches—Ls. very dark, spur furrowed.*
4. St. short diff.—Ls. cord. prolonged—Cent. rosette not flowering—Fl. stems axill.—Fl. showy—Spur short, pale ; caps. glab. trigon.—Cal. append. long, evident accrescent.  
*b. Spur dark, cal. append. shorter.*  
*c. Plant very small, with 1-3 lge. flowers.*
5. St. short—Pl. sm.—Ls. roundly cord. or reni., glabrescent—Cent. rosette not flowering—Caps. downy.
6. St. short—Pl. sm.—Ls. cord. prolonged ; shoots of lat. stem and centr. rosette flowering—Fl. bright slaty blue or wh. with yell. spur—Anth. spur pale—Caps. roundish glab.—Cal. appendage not accrescent.  
*b. Sm. diffuse, spur markedly yellow—Pl. small.*  
*c. Plant very dwarf (2-3 cm.) caps. glab.*  
*d. Ls. thick, almost fleshy ; a profusely flowering plant—Huntingdon.*
7. St. short decumb.—Ls. long, narrowed grad. from base, ov. lanc.—Fl. milky-blue.

ORD. IX.—VIOLACEÆ (*continued*).

| Botanical Name.                         | Common Name.            | Soil<br>or<br>Situation. | Colour.          | Growth. | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|--------------------------|------------------|---------|--|
| <b>Gen. I. Viola L. (contd.)</b>        |                         |                          |                  |         |  |
| 8. <i>V. odorata</i> L. . . .           | <i>Sweet V.</i> . . .   | Hedge bks.<br>etc.       | Var.             | 3-5 in. | P. 1-4                                   |
| <i>b. imberbis</i> Leight.              | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>c. sulfurea</i> Car. . .             | . . . .                 | . . . .                  | <i>p</i> Y.      | . . . . | . . . .                                  |
| <i>d. subcarnea</i> Jord.               | . . . .                 | . . . .                  | Pu.              | . . . . | . . . .                                  |
| <i>e. dunetorum</i> (Jord.)             | . . . .                 | . . . .                  | W.               | . . . . | . . . .                                  |
| <i>× hirta</i> . . . .                  | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| 9. <i>V. hirta</i> L. . . . .           | <i>Hairy Dog V.</i> . . | Calc. past. . .          | Var.             | 3-6 in. | P. 4-6                                   |
| <i>b. glabrata</i> Beeby.               | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>e. pinetorum</i> (W.)                | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>d. propera</i> (Gillot)              | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>e. oenochroa</i> (Gillot)            | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>f. hirsuta</i> Lange .               | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>g. inconcinna</i> (Brig.)            | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>h. Foudrasi</i> (Jord.)              | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| <i>× permixta</i> (Jord.)               | . . . .                 | . . . .                  | . . . .          | . . . . | . . . .                                  |
| 10. <i>V. calcarea</i> Greg. .          | . . . .                 | Calc. gr. . . .          | Pu.              | 1-3 in. | P. 5-6                                   |
| 11. <i>V. palustris</i> L. . .          | <i>Marsh V.</i> . . .   | Bogs . . . .             | Li.              | 3-6     | P. 4-7                                   |
| Many hybrids and minor varieties occur. |                         |                          |                  |         |  |
| 12. <i>V. tricolor</i> L. . . .         | <i>Wild Pansy.</i> . .  | Cult. gr. . . .          | Pu.<br>and<br>Y. | 4-12    | A. etc.<br>4-9                           |
| <i>b. arvensis</i> (Murr.)              | . . . .                 | „ . . . .                | Y.<br>etc.       | 4-12    | P. 4-10                                  |
| 13. <i>V. nana</i> Lam. . . .           | . . . .                 | Dunes, Ch.<br>Isles. L.  | Y.<br>and<br>B.  | 1-3     | A. 4-7                                   |
| 14. <i>V. Curtisii</i> Forst. .         | . . . .                 | Dunes . . . .            | Pu.<br>and<br>Y. | 1-5     | P. 5-7                                   |
| 15. <i>V. lutea</i> Huds. . . .         | . . . .                 | Mt. past. . . .          | Y.               | 4-9     | P. 6-8                                   |
| <i>b. amoena</i> (Sym.).                | . . . .                 | . . . .                  | Pu.              | 4-9     | P. 6-8                                   |

A large number of varieties of *V. tricolor* occur.

## ORD. X.—POLYGALACEÆ.

|                                   |                       |                    |     |      |        |
|-----------------------------------|-----------------------|--------------------|-----|------|--------|
| <b>Gen. I. Polygala L.</b>        |                       |                    |     |      |        |
| 1. <i>P. serpyllifolia</i> Hose   | <i>Heath Milkwort</i> | Heathy places      | Va. | 1-10 | P. 6-9 |
| <i>b. major</i> Rouy and<br>Fouc. | . . . .               | Irish mt. R. .     | B.  | 1-8  | 6-9    |
| <i>c. vincoides</i> Chodat        | . . . .               | Heath Cornw.<br>L. | B.  | 1-6  | 6-9    |

ORD. IX.—VIOLACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Viola* (*continued*).

8. With long stolons from axil. of cent. rosette—Peti. with deflexed hairs—Fl. odorous—Stig. hooked, spur straight.  
*b. No line of hairs on the inner base of petal.*  
*c. Fl. yellowish, faintly scented.*  
*d. Fl. mauve or flesh col.—Lowest pet. often emarginate.*  
*e. Fl. white, spur violet.*  
 × Hybrid of 8 × 9 = *sepincola* Jord.—Long runners—Summer ls. much prolonged.
9. No stolons—Cæspitose, pl. pubesc.—Ls. cord. very hairy, peti. with spread hairs—Fl. odourless; spur hooked, blunt.  
*b. Caps. glab.*  
*c. Summer ls. long petioled.*  
*d. Ls. sm. pubesc. short—Fl. showy, darker violet, sep. broad.*  
*e. Fl. lge., white eye, pale bl. viol.*  
*f. Ls. cord. with long hairs, ped. long—Fl. larger than type.*  
*g. Woody branches, crossed and recrossed—Fl. sm. very numerous.*  
*h. Fl. sm. often lilac, tinged with red or bl.—Spur hooked—Sm. glabresc. pl.*  
 × Hybr. 8 × 9—Short runners, fl. scentless.
- Other colour varieties occur.
10. Fl. sm. pinkish or bl., spur short, straight—Summer ls. conduplicate.
11. St. short, creeping in bogs—Ls. reni. cord., glab.—Fl. li. with purp. streaks, stig. flat—Fr. st. erect.
12. Rootstock o.—Ls. obl. cren.—Stip. leafy—Pet. longer than sep.  
*b. Pet. not longer than sep.*
13. Rootstock sm.—Plant very small—Pet. as long as sep.—Violet-blue or pale yell.
14. Rootstock o.—Creeping—Branches tufted—Pet. not much longer than sep.
15. Rootstock slender—Underground—Branches not tufted—Pet. bright yell. much longer than sepals.  
*b. Petals purplish-violet, larger than sepals.*

## ORD. X.—POLYGALACEÆ.

Gen. I. *Polygala*.

1. Lower ls. spath. scattered—Upper ellip. opposite—Rac. term. and lat.—Calyx wings as broad as fr.  
*b. Flowers very large, dark blue.*  
*c. St. ls. broadly ellipt. mostly opposite, crowded.*



ORD. X.—POLYGALACEÆ (*continued*).

| Botanical Name.                           | Common Name.          | Soil<br>or<br>Situation.     | Colour.                 | Growth. | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------|------------------------------|-------------------------|---------|--|
| <b>Gen. I. Polygala</b> ( <i>contd.</i> ) |                       |                              |                         |         |  |
| 2. <i>P. vulgaris</i> L. . .              | <i>Milkwort</i> . .   | . . . . .                    | Va.                     | 1-10    | P. 6-9                                   |
| <i>b. Babingtonii</i> Dr.                 | . . . . .             | Ben Bulben.R.                | . .                     | 1-10    | 6-8                                      |
| <i>c. minutiflora</i> Gren<br>and Godr.   | . . . . .             | Isle of Man.R.               | . .                     | 1-6     | . .                                      |
| 3. <i>P. oxyptera</i> Reichb.             | . . . . .             | . . . . .                    | Va.                     | 1-6     | P. 6-8                                   |
| <i>b. collina</i> Reichb. .               | . . . . .             | Dunes Scot. L.               | W.                      | 1-4     | 6-8                                      |
|   |                       |                              | Ro.                     |         |  |
| 4. <i>P. calcarea</i> F. Schultz          | <i>Chalk Milkwort</i> | Chalk Downs                  | Va.                     | 1-5     | P. 5-7                                   |
| 5. <i>P. amara</i> L. . . .               | . . . . .             | Roc. pl.<br>Yorks. L.        | B.<br>W.                | 1-3     | P. 4-7                                   |
|   |                       |                              | Ro.                     |         |  |
| <i>b. austriaca</i> (Cr.).                | . . . . .             | Chalk Downs<br>Kent, etc. R. | dull<br>B.<br>or<br>bW. | 1-3     | P? 6-7                                   |

## ORD. XI.—FRANKENIACEÆ.

|                               |                      |               |     |     |        |
|-------------------------------|----------------------|---------------|-----|-----|--------|
| <b>Gen. I. Frankenia</b> L.   |                      |               |     |     |        |
| 1. <i>F. lævis</i> L. . . .   | <i>Sea Heath</i> . . | Salt ma. L. . | Ro. | Cr. | P. 6-9 |
| [2. <i>F. pulverulenta</i> L. | . . . . .            | ? Sussex Co.  | . . | . . | A. 7-  |

## ORD. XII.—CARYOPHYLLACEÆ.

|                                |                         |                          |                  |           |        |
|--------------------------------|-------------------------|--------------------------|------------------|-----------|--------|
| <b>Gen. I. Dianthus</b> L.     |                         |                          |                  |           |        |
| 1. <i>D. cæsius</i> Sm. . .    | <i>Cheddar Pink</i> .   | Calc. cliffs. R.         | Pk.              | 6-9 in.   | P. 6-7 |
| 2. <i>D. deltoides</i> L. . .  | <i>Maiden Pink</i> .    | Hilly past. R.           | Ro.              | 6-12 in.  | P. 6-9 |
| <i>b. glaucus</i> (L.) . .     | . . . . .               | Nr. Edinb. R.            | W.               | . . .     | . . .  |
| 3. <i>D. Armeria</i> L. . .    | <i>Deptford Pink</i> .  | Sa. & Grav.<br>Pl. R.    | Ro.              | 6-18 in.  | A. 7-8 |
| *4. <i>D. plumarius</i> L. . . | <i>Common P.</i> . .    | Old walls. R.            | <i>p.</i><br>Pk. | 6-12 in.  | P. 6-7 |
| 5. <i>D. gallicus</i> Pers. .  | . . . . .               | Dunes, Jersey<br>V.R.    | Ro.              | 6-12 in.  | P. 7-9 |
| *6. <i>D. Caryophyllus</i> L.  | <i>Clove Pink</i> . .   | Old walls. R.            | Pk.              | 12-18 in. | P. 7-8 |
| <b>Gen. II. Tunica</b> Scop.   |                         |                          |                  |           |        |
| 1. <i>T. prolifera</i> Scop. . | <i>Childling Pink</i> . | Sa. & Grav.<br>Pl. V. R. | Pk.              | 6-18 in.  | A. 6-8 |

ORD. X.—POLYGALACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Polygala** (*continued*).

2. Lower ls. oval crowded—Upper lanc. alternate—Rac. term.—Calyx wing as broad as fr.  
*b. Upper ls. lge., lanc. coriac.—Fl. lge.—Dk. blue.—P. Babingtonii*, Druce.  
*c. Upper ls. narrow—Fl. small.*
3. Calyx wings narrower than fruit.—Fls. usually blue.  
*b. Sm. prost. fl. usually rose-coloured.*
4. St. branched ; each br. with a rosette of ellip. ls. from which the fl. shoots spring—St. ls. narrower—Cal. wings ob.-ov., larger than fr.
5. Pl. erect—Ls. spath. in rad. rosette—Upper ls. narrower—Inner sepals narrow—Caps. rounded at base.  
*b. Caps. narrowed to base, ls. less fleshy.*

## ORD. XI.—FRANKENIACEÆ.

**Gen. I. Frankenia.**

1. Ls. lin., revolute at marg., glab., ciliate at base.
- [2. Ls. ob. retuse, glab. above ; pulverulent beneath.]

## ORD. XII.—CARYOPHYLLACEÆ.

**Gen. I. Dianthus.**

1. Ls. lin. 1 in. edges rough, glauc.—Pet. crenately-cut bearded—Cal. scales orbic.—Fls. fragrant, sol.—Cheddar cliffs (*D. glaucus* Huds.).
2. Ls.  $\frac{1}{2}$  in. green, flat, downy—Pet. toothed—Cal. scales two lanc. acute—Fl. sol.  
*b. Ls. glauc.—Fl. white.*
3. Fls. fascicled—Ls. lin. opp. conn.—Cal. scales lanc., with long points, downy.
- \*4. Fl. sol. in lax cyme ; ls. rough at edge—Pet. digit. multifid to middle, downy—Fl. fragrant.
5. Base of st. clothed with minute papillate hairs—Pet. deeply and irregularly cut into obt. lobes—Fl. dark ro.—Frag.—Ls. borders dentic. and scarious.
- \*6. Ls. edges smooth—Pet. cren. dent. glabr.—Fl. frag.

**Gen. II. Tunica** Scop. = *Dianthus* L. *p.p.*

1. Fl. clustered—Ls. lin. lanc. ; margin rough—Cal. scales membran. pellucid.

ORD. XII.—CARYOPHYLLACEÆ (*continued*).

| Botanical Name.  | Common Name.                        | Soil<br>or<br>Situation.          | Colour.                      | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------------------|-----------------------------------|------------------------------|-----------|--|
| <b>Gen. III. Saponaria L.</b>                            |                                     |                                   |                              |           |  |
| *1. <i>S. Vaccaria</i> L. . . .                          | . . . . .                           | W. Pl. . . .                      | Ro.                          | 9-24 in.  | A. 7-9                                   |
| *2. <i>S. officinalis</i> L. . . .                       | <i>Soapwort</i> . . .               | Riv. bk. etc. L.                  | <i>ph.</i><br>Ro.            | 1-3 ft.   | P. 8-9                                   |
| <i>b. hybrida</i> L. . . .                               | . . . . .                           | Wa. pl. R. . .                    | . . .                        | . . .     | . . .                                    |
| <i>c. puberula</i> Weirzb.                               | . . . . .                           | . . . . .                         | . . .                        | . . .     | . . .                                    |
| <b>Gen. IV. Silene L.</b>                                |                                     |                                   |                              |           |  |
| 1. <i>S. maritima</i> With. . . .                        | <i>Sea Champion</i> .               | Sea shingle,<br>mts. etc.         | W.                           | 6-12 in.  | P. 6-8                                   |
| 2. <i>S. inflata</i> Sm. . . . .                         | <i>Bladder Champion</i>             | Fie. roadside,<br>etc.            | W.                           | 1-3 ft.   | P. 6-8                                   |
| ( <i>S. Cucubalus</i> Wib.)<br><i>b. hirsuta</i> (Gray). | . . . . .                           | Calc. fie. etc.                   | . . .                        | 1-2 ft.   | . . .                                    |
| 3. <i>S. conica</i> L. . . . .                           | . . . . .                           | Sa. pl. nr. co.<br>etc. L.        | Ro.                          | 3-18 in.  | A. 6-8                                   |
| 4. <i>S. noctiflora</i> L. . . .                         | <i>Night-flowering<br/>Catchfly</i> | Cult. fie. or<br>light soil       | <i>ph.</i><br>W.             | 6-24 in.  | A. 7-9                                   |
| 5. <i>S. anglica</i> L. . . . .                          | <i>English Catchfly</i>             | Sa. places .                      | <i>ph.</i><br>W.             | 6-24 in.  | A. 7-9                                   |
| <i>b. quinquevulnera</i><br>(L.)                         | . . . . .                           | Sa. pl. Ch: Isles                 | Cr.<br>&<br>W.               | 6-18 in.  | A. 6-8                                   |
| 6. <i>S. acaulis</i> L. . . . .                          | <i>Moss Champion</i> .              | Mts. . . . .                      | Ro.                          | 1-3 in.   | P. 5-8                                   |
| *7. <i>S. Armeria</i> L. . . . .                         | . . . . .                           | W. Pl. R. . .                     | Ro.                          | 6-18 in.  | A. 7-9                                   |
| 8. <i>S. Otites</i> Wibel. . . .                         | . . . . .                           | Heathy pl. in.<br>E. counties. L. | <i>gr.</i><br>W.             | 4-18 in.  | P. 6-7                                   |
| 9. <i>S. nutans</i> L. . . . .                           | <i>Nottingham<br/>Catchfly</i>      | Roc. pl. etc. L.                  | W.                           | 1-3 ft.   | P. 6-7                                   |
| <i>b. dubia</i> (Herbich)                                | . . . . .                           | Shingle, roc.<br>pl. L.           | W.                           | 1-2 ft.   | P. 6-7                                   |
| *10. <i>S. italica</i> L. . . . .                        | <i>Italian C.</i> . . .             | Roadside V. R.                    | W.                           | 1-2 ft.   | P. 6-7                                   |
| <b>Gen. V. Cucubalus L.</b>                              |                                     |                                   |                              |           |  |
| *1. <i>C. baccifer</i> L. . . . .                        | . . . . .                           | Wa. Pl. V. R.                     | W.                           | 1-2 ft.   | P. 6-7                                   |
| <b>Gen. VI. Lychnis L.</b>                               |                                     |                                   |                              |           |  |
| 1. <i>L. Flos-cuculi</i> L. . . .                        | <i>Ragged Robin</i> .               | Dp. pl. . . .                     | Ro.                          | 1-2 ft.   | P. 5-6                                   |
| 2. <i>L. alba</i> Mill. . . . .                          | <i>White Champion</i>               | Cult. gr. . . .                   | W.                           | 1-2 ft.   | B. 6-9                                   |
| 3. <i>L. dioica</i> L. . . . .                           | <i>Red Champion</i> .               | Dp. pl. etc. .                    | Ro.                          | 1-2 ft.   | P. 5-8                                   |
| 2 and 3 $\times$ <i>alba</i> . . . .                     | . . . . .                           | . . . . .                         | . . .                        | . . .     | . . .                                    |
| 4. <i>L. Viscaria</i> L. . . . .                         | . . . . .                           | Cliffs. R. . . .                  | R.                           | 12-15 in. | P. 6-7                                   |
| 5. <i>L. alpina</i> L. . . . .                           | <i>Alpine C.</i> . . .              | Mt. V. R. . . .                   | R.                           | 3-8 in.   | P. 6-7                                   |
| 6. <i>L. Githago</i> Scop. . . .                         | <i>Corn Cockle</i> . .              | Cult. gr. . . .                   | <i>ph.</i><br>Pu.            | 1-2 ft.   | A. 7-8                                   |
| <b>Gen. VII. Holosteum L.</b>                            |                                     |                                   |                              |           |  |
| 1. <i>H. umbellatum</i> L. . . .                         | . . . . .                           | Old walls, etc.<br>V. R.          | W.<br>or<br><i>ph.</i><br>W. | 1-5 in.   | A. 4-5                                   |



ORD. XII.—CARYOPHYLLACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. III. Saponaria.**

- \*1. St. much branched above—Cal. 5 angled.
- \*2. St. stout, leafy—Cal. cyl. not angled.

*b. Pet. united at base—Ls. connate.*

*c. Upper part of pl. pubescent.*

**Gen. IV. Silene.**

- 1. Fls. subsol. calyx inflated—Pet. crowned—St. decumb.—Bract herbaceous—Maritime.
- 2. Fls. pan.—Cal. inflated—St. erect—Ls. glab.—Bract scarious—Pet. deeply cleft.

*b. Pl. pubescent.*

- 3. St. erect, forked, hairy—Ls. lin. lanc.—Fl. term. and in the fork—Cal. con. 20 furrowed.
- 4. St. erect, dichot.—Ls. obl. lanc. acute—Fl. in a forked pan.—Cal. ellip.-obl.—Cap. ovate—Pet. rolled up in daytime—Open and frag. at night—Resembles *Lychnis alba*.
- 5. St. erect viscid—Ls. lanc.—Fl. sol. axill. alt. sm.—Pet. bifid.—Rac. terminal.

*b. Petals each with crimson or choc. red blotch at base.*

- 6. Densely tufted, one fld.—Ls. lin. ciliate at base—Cap. twice as long as cal.
- \*7. Erect, glauc.—Pan. forked, flat topped—Pet. notched; caps. clavate—St. viscid.
- 8. St. erect—Simp. nearly leafless—Basal ls. spath.—Fl. small whorled—Pet. lin. ent.
- 9. St. erect, viscid hairy—Ls. lanc.—Fl. pan. drooping—Pet. deeply bilobed.

*b. Root ls. long petioled, spath., acute, upper ls. less hairy, narrower—Cal. narrower—Pl. more slender.*

- \*10. Pan. nearly erect—Caps. clavate—Carpophore as long as caps.

**Gen. V. Cucubalus.**

- \*1. St. branched, spreading; cal. bell shaped—Pet. distant—Fr. fleshy.

**Gen. VI. Lychnis.**

- 1. St. viscid—Ls. lanc.—Fl. pan.; pet. 4 cleft.
- 2. St. hairy—Ls. ovate lanc.—Fl. dioec.—Caps. con., teeth 10 straight—Fl. white.
- 3. " " " " —Caps. nr. globular, teeth 10 recurved—Fl. red.
- × *A hybrid of 2-3 ft.—Rose cold. fls.*
- 4. St. viscid—Ls. lanc.—Fl. pan.—Pet. nearly entire.
- 5. St. glab.—Ls. lin. lanc.—Fl. capil.; pet. bifid.
- 6. St. erect, branched—Fl. large sol.; cal. teeth woolly, longer than cor.

**Gen. VII. Holosteum.**

- 1. Ls. ellip., ovate—Fl. umbellate—Pedun. viscid—E. of Engl.—Surr.

ORD. XII.—CARYOPHYLLACEÆ (*continued*).

| Botanical Name.  | Common Name.                                | Soil<br>or<br>Situation.          | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---|-----------------------------------|---------|----------|--|
| <b>Gen. VIII. Cerastium.</b>   |   |                                   |         |          |  |
| *<br>1. <i>C. erectum</i> Coss. and<br>Germ.<br>( <i>Moenchia erecta</i> ) | *<br><i>Erect Pearlwort</i>                 | Heaths. L. .                      | W.      | 1-4 in.  | A. 4-6                                   |
| 2. <i>C. arvense</i> L. . .  | * *<br><i>Field Mouse-ear<br/>Chickweed</i> | Calc. fie. L. .                   | W.      | 6-10 in. | P. 4-8                                   |
| <i>b. Andrewsii</i> Syme   |   |                                   |         |          |  |
| 3. <i>C. alpinum</i> L. . .  | <i>Alpine M.</i> . .                        | High Mt. L.                       | W.      | 3-6 .    | P. 6-8                                   |
| <i>b. pubescens</i> Syme   |   |                                   |         |          |  |
| 4. <i>C. nigrescens</i> Edm.   | <i>Arctic M.</i> . .                        | Unst.co.V.R.                      | W.      | 3-5 .    | P. 6-8                                   |
| <i>b. arcticum</i><br>( <i>Lange.</i> )                                    | . . . .                                     | High Mt. L.<br>S. and W.          | . .     | . .      | 6-8                                      |
| 5. <i>C. vulgatum</i> L. . .   | <i>Common M.</i> .                          | Fie. etc. . .                     | W.      | 3-15 in. | B. or P.<br>4-9                          |
| <i>b. holosteoides</i> (Fr.)   | . . . .                                     | . . . .                           | . .     | 6-15 in. | B. 5-8                                   |
| <i>c. pentandrum</i><br>( <i>Syme</i> )                                    | . . . .                                     | . . . .                           | . .     | 3-6      | A. 5-7                                   |
| <i>d. alpinum</i> Hartm.   | . . . .                                     | . . . .                           | . .     | 3-6      | B. „                                     |
| <i>e. obtusum</i> Druce.   | . . . .                                     | . . . .                           | . .     | 4-8      | B. „                                     |
| 6. <i>C. viscosum</i> L. . .   | <i>Broad l. M.</i> . .                      | Fie. etc. . .                     | W.      | 3-10 in. | A. 4-9                                   |
| <i>b. apetalum</i> (Dum.)  | . . . .                                     | . . . .                           | . .     | 3-10 in. | A. 4-9                                   |
| 7. <i>C. pumilum</i> Curt. .   | . . . .                                     | Calc. pl. R. .                    | W.      | 1-4 in.  | A. 4-6                                   |
| 8. <i>C. semidecandrum</i> L.  | <i>Sm. M.</i> . . .                         | Sandy and<br>calc. pl.            | W.      | 1-8 in.  | A. 4-6                                   |
| <i>b. glandulosum</i><br><i>Koch</i>                                       | . . . .                                     | . . . .                           | . .     | . .      | . .                                      |
| 9. <i>C. tetrandrum</i> Curt.  | <i>Sea M.</i> . . .                         | Past. etc. nr.<br>co.V. R. inland | W.      | 1-10 in. | A. 5-7                                   |
| 10. <i>C. Cerastoides</i> Britton<br>( <i>C. trigynum</i> Vill.)           | <i>Mt. M.</i> . . .                         | High Mt. .                        | W.      | 3-6 in.  | P. 7-8                                   |
| <b>Gen. IX. Stellaria L.</b>   |   |                                   |         |          |  |
| 1. <i>S. aquatica</i> Scop. .  | <i>Great Chickweed</i>                      | Wet pl. . .                       | W.      | 1-3 ft.  | P. 7-8                                   |
| 2. <i>S. nemorum</i> L. . .  | <i>Wood Stitchwort</i>                      | Dp. wo. R. .                      | W.      | 1-2 ft.  | P. 5-7                                   |
| 3. <i>S. media</i> Vill. . .   | <i>Chickweed</i> . .                        | Ubiqu. . . .                      | W.      | 3-18 in. | A. 2-10                                  |
| <i>b. Boraeana</i> (Jord.)   | „ . .                                       | Dry bks. and<br>heaths            | W.      | 3-12     | A. 3-5                                   |
| <i>c. neglecta</i> (Weihe)   | „ . .                                       | Sha. bks. . .                     | W.      | 3-12     | A. 4-7                                   |
| <i>d. umbrosa</i> (Opiz).  | „ . .                                       | „ „ L.                            | W.      | 3-12     | P. 4-7                                   |
| 4. <i>S. Holostea</i> L. . .   | <i>Greater S.</i> . .                       | Hed. and wo.<br>bord. etc.        | W.      | 1-2 ft.  | P. 4-6                                   |
| 5. <i>S. palustris</i> Retz. .   | <i>Marsh S.</i> . .                         | Marshes. L.                       | W.      | 1-2 ft.  | P. 5-8                                   |
| 6. <i>S. graminea</i> L. . .   | <i>Heath S.</i> . .                         | Heathy pl. .                      | W.      | 1-2 ft.  | P. 5-8                                   |
| 7. <i>S. uliginosa</i> Murr. .   | <i>Bog S.</i> . . .                         | Bogs . . .                        | W.      | 3-18 in. | P. 5-7                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. VIII. Cerastium.** (*Mænchia* of last edit.)\* *Sep. Pet. Sta.* 4.

1. Ls. lin. lanc. glauc.—Sep. margin scarious—Pet. shorter than sep.

\* \* *Sep. Pet.* 5.

2. Ls. lin. lanc. hairy; pet. twice as long as sep.

*b. Ls. lin. glabrescent—Pl. rigid—Fl. sol. Isle of Arran, Galway.*

3. Ls. ovate covered with long white hair—Fl. large—St. ascending—Seeds acutely tubercled.

*b. Ls. narrower, greener—A hybrid of 3 × 5—C. Symei, Druce.*

4. Ls. obovate, densely hairy, dk. gr. tinged with purplish-black—Fl. large—St. caespitose, decumbent—Seeds rugose.

*b. Ls. oval—Pl. light green = C. latifolium, Sm.*

Also a hybrid 3 × 4 and 4 × 5.

5. St. erect, hairy all round—Ls. lanc. deep gr.—Pet. longer than sep.

*b. St. erect, hairs confined to two lines—Sep. glab.—Sta. 10.*

*c. Annual—Sep. hairy—Sta. 5—Caps. shorter.*

*d. Pets. much longer than sepal*

*e. Sepals obtuse—St. rigid.*

6. St. erect or diffuse—Ls. oval pale green—Pet. shorter than sep.

*b. Flowers apetalous.*

7. Pl. sm.; ls. spath. upper oblong, upper bracts very narrow scarious marg.—Fr. stalks declining from their base—Pet. longer than sep.

8. Ls. broadly ovate, or oval, bracts with upper half scarious—Fr. stalk eventually erect, at first reflexed.

*b. Pl. very glandular.*

9. St. diff.—Ls. ovate—Sep. 4, bracts wholly leafy—Fr. stalk 2-4 times as long as calyx.

10. St. decumb. weak with an alt. hairy line—Ls. obl. obt. 2-fld.—Cor. large—Alpine only.

**Gen. IX. Stellaria.**

1. Lower ls. stalked ovate or cordate, upper sess.—Pet. longer than cal.—Styles 5—St. decumb.

2. Very like No. 1, but pet. more deeply cut, with narrow segm.—Styles 3—St. erect.

3. Very variable—St. decumb. with a hairy alternate lateral line—Ls. ovate—Sta. 5.

*b. Pets. absent—Sta. 3—Pl. pale yellowish green—Diffuse, prost.*

*c. St. erect—Ls. larger—Sta. 10.*

*d. Ls. ovate acute—Ped. and sep. glabrous, seeds with prominent acute tubercles.*

4. St. erect, ang.—Ls. lanc. serr. acum.—Sep. nerveless  $\frac{1}{2}$  as long as pet.

5. St. erect, ang.—Ls. lin. lanc. ent. glauc.—Fl. sol. axill.—Sep. 3 nerved, shorter than pet.

6. St. diffuse glab.—Ls. lin. lanc. ent. glab. rough—Sep. 3 nerved, usually as long as pet.

7. St. diff. decumb. glab.—Ls. ovate lanc. callous at tip, soft—Sep. longer than pet.



ORD. XII.—CARYOPHYLLACEÆ (*continued*).

| Botanical Name.                            | Common Name.                  | Soil or Situation.                      | Colour.   | Growth.   | Duration and time of flowering. |
|--|-------------------------------|---|-----------|-----------|---------------------------------|
| <b>Gen. X. Arenaria L.</b>                 |                               |   |           |           |                                 |
| 1. <i>A. trinervia</i> L. . . .            | <i>Three-nerved Sandwort</i>  | Woods and shad. pl. . .                 | W.        | 6-12      | A. 5-6                          |
| 2. <i>A. ciliata</i> L. . . .              | <i>Ciliate S.</i> . . .       | Bare calc. pl. Ben Bulbin range. R. . . | W.        | 1-6 cr.   | P. 5-8                          |
| 3. <i>A. norvegica</i> Gunn.               | <i>Arctic S.</i> . . .        | St. pl. V. R. Unst. and Sutherland.     | W.        | 1-4 cr.   | P. 7-8                          |
| 4. <i>A. gothica</i> Fr. . . .             | . . . . .                     | Bare calc. pl. V. R. Yorks.             | W.        | 1-4       | P. 5-9                          |
| 5. <i>A. serpyllifolia</i> L. . .          | <i>Thyme-leaved S.</i>        | Dry pl. . . .                           | W.        | 2-12 in.  | A. 5-9                          |
| <i>b. viscidula</i> Koch . . . .           | . . . . .                     | . . . . .                               | . . . . . | . . . . . | . . . . .                       |
| <i>c. macrocarpa</i> Lloyd                 | . . . . .                     | Sea coast . . .                         | . . . . . | . . . . . | . . . . .                       |
| 6. <i>A. leptoclados</i> Guss.             | . . . . .                     | Dry pl. . . .                           | W.        | 2-12 in.  | A. 5-8                          |
| 7. <i>A. Peplodes</i> L. . . .             | <i>Sea Purslane</i> .         | Sea coast . . .                         | W.        | 4-18 in.  | P. 5-9                          |
| 8. <i>A. tenuifolia</i> L. . . .           | <i>Fine-leaved Sandwort</i> . | Dry pl. L. . .                          | W.        | 4-6 in.   | A. 5-6                          |
| <i>b. Barrelieri</i> DC. . . . .           | . . . . .                     | . . . . .                               | . . . . . | . . . . . | . . . . .                       |
| <i>c. hybrida</i> Vill. . . . .            | . . . . .                     | . . . . .                               | . . . . . | . . . . . | . . . . .                       |
| 9. <i>A. uliginosa</i> Schlecht.           | <i>Bog Sandwort</i> .         | Bogs. V. R. . .                         | W.        | 2-3       | A. 6-7                          |
| 10. <i>A. verna</i> L. . . . .             | <i>Spring S.</i> . . .        | Mt. pl. L. . .                          | W.        | 1-4       | P. 6-9                          |
| <i>b. Gerardi</i> (Willd.) . . . .         | . . . . .                     | Marit. roc. . .                         | W.        | 1-4       | P. 5-7                          |
| 11. <i>A. rubella</i> Hook. . . .          | <i>Mt. S.</i> . . . .         | Roc. pl. on S. Mt. V.R.                 | W.        | 1-2       | P. 7-8                          |
| 12. <i>A. Sedoides</i> (L.) . . .          | <i>Cyphel</i> . . . .         | S. Mts. L. . .                          | yG.       | 1-2       | P. 6-8                          |
| ( <i>Cherleria Sedoides</i> )              |                               |   |           |           |                                 |
| <b>Gen. XI. Sagina L.</b>                  |                               |   |           |           |                                 |
| *  |                               |   |           |           |                                 |
| 1. <i>S. nodosa</i> Fenzl. . . .           | <i>Knotted Spurrey</i>        | Wet sandy pl. L.                        | W.        | 2-6 in.   | P. 7-9                          |
| <i>b. glandulosa</i> (Bess.) . . .         | . . . . .                     | . . . . .                               | . . . . . | . . . . . | . . . . .                       |
| 2. <i>S. subulata</i> Presl. . . .         | <i>Heath Pearlwort</i>        | Heathy pl. . .                          | W.        | 1-2 in.   | P. 6-8                          |
| 3. <i>S. nivalis</i> Fr. . . . .           | <i>Alpine P.</i> . . .        | Roc. pl. Scot. mt. V. R.                | W.        | 1-1½ in.  | P. 7-8                          |
| 4. <i>S. Saginoides</i> Dalla Torre        | <i>Mt. P.</i> . . . .         | Scot. mts. . .                          | W.        | 1-1½ in.  | P. 6-8                          |
| ( <i>S. saxatilis</i> = <i>S. Linnæi</i> ) |                               |   |           |           |                                 |
| * *  |                               |   |           |           |                                 |
| 5. <i>S. Boydii</i> F. B. White            | <i>Boyd's P.</i> . . .        | Scot. mt. V. R. . .                     | . . .     | 1-2 in.   | P. 6                            |
| 6. <i>S. ciliata</i> Fr. . . . .           | <i>Ciliated P.</i> . . .      | Dry pl. . . .                           | W.        | 1-6 in.   | A. 5-7                          |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. X. Arenaria.**

1. Resembles *Stell. umbrosa*—St. diff. hairy—Ls. stalked ov. acute, peti. cili.—Fl. axill. and sol. long stalked.
2. St. proc. much branched—Ls. spath. cil., fl. sol.—Sep.  $\frac{1}{2}$  as long as pet. strongly ribbed—Ireland only.
3. St. proc. much branched—Ls. spath. obov. not cil. fleshy—Sep. obscurely 3 ribbed—Caps. not constricted at top, teeth erect.
4. St. diff. much branched—Ls. ov. or ov.-lanc. acum. slightly cil. at base—Caps. ovoid constricted at top, with revolute teeth.
5. St. much branched—Ls. ovate, sess. acute—Sep. longer than pet. hairy—Ripe caps. ovoid, brittle.
  - b. Upper part with viscid hairs.*
  - c. Ls. broader, sep. strongly veined eglandular, caps. larger, maritime.*
6. St. more slender, much branched—Ls. smaller, and narrower—Caps. obl. flexible.
7. St. prost.—Ls. sess. ovate, acute fleshy, shining—Fl. sol. sess. pet. not longer than sep.—Caps. large globose (*Honkenya Peplodes* L.).
8. St. slend. branched forked—Ls. lin. subulate, glab.—Sep. 3 nerved, as long as pet.—Sta. 10.
  - b. Sta. 5—Sep. gland. shorter than caps.—East. of Eng.*
  - c. Sta. 8-10—Pedunc. and sep. gland. hairy—Sep. as long as cap.—Suffolk.*
9. St. loosely tufted—Ls. filiform veinless—Pedunc. very long, 1-3 fl.—Sep. ov. acute, as long as the ob.-ov. pet.—Calcareous bogs—Teesdale.
10. St. tufted—Ls. lin. subu. acute, 3 veined—Sep. 3 nerved, shorter than obl. pet.
  - b. Ls. blunt, lower adpressed—Lizard, Cornwall.*
11. St. densely tufted—Ls. subu. obtuse, 3 veined—Fl. sol. sep. acute longer than lanc. pet.
12. Tufted in compact cushions—Pet. often o.—Fl. sol. sess.—Ls. crowded, moss-like.

**Gen. XI. Sagina.**\* *Parts of flower 5 (Spergella).*

1. St. proc. leafy to top of branches—Ls. subu. glab. conn. with lf. buds in their axils, fasciculate, much longer than sep.
  - b. Upper portion glandular hairy.*
2. Tufted—Ls. lin. awned, ciliate—Pedunc. long, curved after flowering—Pet. as long as sep.—Ped. and cal. glandular—Hairy.
3. Dense tufted, glab.—Ped. always erect—Scot. mt. only.
4. Cent. st. short and barren—L. lin. mucro. glab.—Ped. and cal. glab.—Pet. usually shorter than sep.

\* \* *Parts of flower usually 4.*

5. Densely tufted—Ls. dk. gr. shiny, fleshy, imbricate strongly recurved, fl. in 4-5 parts; pet. o.; *exact* native locality unknown.
6. St. erect, or diffuse—Ls. lin. outer sep. pointed scarcely shorter than and adpressed to ripe capsule, their tips patent—Pet. minute—Pl. more or less gland.

ORD. XII.—CARYOPHYLLACEÆ (*continued*).

| Botanical Name.                                    | Common Name.                         | Soil<br>or<br>Situation.      | Colour.                                | Growth.              | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------------------|-------------------------------|--|----------------------|--|
| <b>Gen. XI. Sagina L.</b><br>( <i>continued</i> ). |                                      |                               |  |                      |  |
| 7. <i>S. apetala</i> Ard. . .                      | <i>Annual P.</i> . .                 | Walls, bare pl.               | . .                                    | 1-10 in.             | A. 5-9                                   |
| <i>b. prostrata</i> Bab. . .                       | . . . .                              | Bare pl. . .                  | . .                                    | 1-4 in.              | A. 5-9                                   |
| <i>c. Reuteri</i> (Boiss.) . .                     | . . . .                              | Bare pl. L. . .               | . .                                    | 1-3 in.              | A. 5-8                                   |
| 8. <i>S. maritima</i> Don. . .                     | <i>Sea P.</i> . . .                  | Marit. pl. L.                 | W.                                     | 1-6 in.              | A. 5-9                                   |
| <i>b. debilis</i> (Jord.) . .                      | . . . .                              | Marit. pl. . .                | . .                                    | 1-6 in.              | A. 5-9                                   |
| <i>c. densa</i> (Jord.) . .                        | . . . .                              | Marit. pl. . .                | . .                                    | 1-4 in.              | A. 5-9                                   |
| <i>d. alpina</i> Syme . .                          | . . . .                              | Top of Ben<br>Nevis           | . .                                    | 2-3 in.              | A. 7-8                                   |
| 9. <i>S. procumbens</i> L. . .                     | <i>Common P.</i> . .                 | W. pl., etc. . .              | W.                                     | 1-3 in.              | P. 5-9                                   |
| <i>b. spinosa</i> Gibs. . .                        | . . . .                              | . . . .                       | . .                                    | . .                  | . .                                      |
| <b>Gen. XII. Spergula L.</b>                       |                                      |                               |  |                      |  |
| 1. <i>S. arvensis</i> L. . .                       | <i>Corn Spurrey</i> . .              | Corn fie. . .                 | W.                                     | 4-15 in.             | A. 6-8                                   |
| <i>b. nana</i> Linton . .                          | . . . .                              | Co. turf, Cult.<br>gr.        | W.                                     | $\frac{1}{2}$ -3 in. | A. 2-4                                   |
| 2. <i>S. sativa</i> Boenn. . .                     | <i>Corn Spurrey</i> . .              | Corn fie. Cult.<br>gr.        | W.                                     | 4-15                 | A. 6-8                                   |
| <b>Gen. XIII. Spergularia</b><br><i>Presl.</i>     |                                      |                               |  |                      |  |
| 1. <i>S. rupestris</i> Lebel . .                   | <i>Sea Spurrey</i> . .               | Roc. nr. co. . .              | <i>p.</i><br>Pk.                       | 4-12 in.             | P. 5-9                                   |
| <i>b. glabrescens</i> (Lebel)                      | . . . .                              | . . . .                       | . .                                    | . .                  | . .                                      |
| 2. <i>S. media</i> Presl. . .                      | <i>Sea Spurrey</i> . .               | Mar. pl. . .                  | <i>p.</i><br>Pk.<br>with<br>W.<br>base | 4-15 in.             | B. or P.<br>6-9                          |
| <i>b. glandulosa</i> Druce                         | . . . .                              | . . . .                       | . .                                    | . .                  | . .                                      |
| 3. <i>S. salina</i> Presl. . .                     | <i>Sea Spurrey</i> . .               | Sea Co. . .                   | Pk.<br>with<br>W.<br>base              | 4-12 in.             | A. or B.<br>6-9                          |
| <i>b. neglecta</i> (Kindb.).                       | . . . .                              | . . . .                       | . .                                    | . .                  | . .                                      |
| 4. <i>S. atheniensis</i> H.&S.                     | . . . .                              | S. & E. of Eng.<br>Ch. Isles. | Pk.<br><i>pu.</i>                      | 3-5 in.              | A. 6-7                                   |
| 5. <i>S. rubra</i> Presl. . .                      | <i>Red Sandwort</i> . .              | Dry sandy pl.                 | Pk.                                    | 3-8 in.              | A. or B.<br>6-8                          |
| <b>Gen. XIV. Polycarpon</b><br><i>Loefl.</i>       |                                      |                               |  |                      |  |
| 1. <i>P. tetraphyllum</i> L. . .                   | <i>Four-leaved</i><br><i>Allseed</i> | V. R. S. W.<br>Coast          | <i>g</i> W.                            | 2-8                  | A. 5-7                                   |



ORD. XII.—CARYOPHYLLACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XI. *Sagina* (*continued*).

7. St. erect, ascending, or prost.—Sep. shorter than ripe caps., spreading in a Maltese cross when mature—Pl. slightly pubesc.
  - b. Pl. prostrate, branching from a rosette which lengthens and flowers.*
  - c. Pl. prostrate, ped. short, densely gland.—Sep. usually adpressed—Tips of sep. blunt.*
8. St. and ls. glab.—St. slender, erect or decumb. with long internodes—Ls. lin. fleshy, blunt.
  - b. Proc. slender—Internodes long—Caps. shorter than sep.*
  - c. Erect, st. slender, branched short internodes—Caps. shorter than sep.*
  - d. Erect, st. stout, short internodes.*
9. St. diffuse (from central rosette), long rooting—Ls. lin. awned—Apex of pedunc. reflexed after flowering—Sep. spreading in fruit—Glabrous—Sometimes 5 sepals.
  - b. Ls. ciliate.*

Gen. XII. *Spergula*.

1. Ls. whorled, lin. fleshy—St. erect—Seeds papillose.
  - b. Prostrate.* Grows in short turf in Channel Isles.
2. Ls. and stem as in 1. Seeds not papillose, narrowly winged.

Gen. XIII. *Spergularia*.

1. Root thick, woody—Ls. fascicled, pubesc.; caps. large, equalling cal.  $\frac{1}{2}$ – $\frac{2}{3}$  shorter than the fr. stalk—Seeds compressed, pyriform, not winged.
  - b. Ls. glabrescent.*
2. Rootstock slender, scarcely woody—Ls. fleshy, bluntish, smooth—Caps. large, twice as long as cal., but scarcely  $\frac{1}{2}$  as long as fr. stalk—Seeds roundish, conspicuously winged.
  - b. St. and ls. strongly glandular.*
3. Rootstock rarely woody, ls. fleshy, bracts lf.-like; caps. slightly longer than cal. and about as long as fr. stalk; seeds roundish, some with thickened border, others with scarious wing, but not papillate.
  - b. Seeds as last, but papillate, bracts scarious.*
4. Ls. not fleshy, no basal rosette of leaves—Stip. broadly triang. dull yell. white—Caps. not longer than sep; seeds small, without margin.
5. Rosette of ls.—Ls. not fleshy, lin. flat, pointed—Caps. not longer than sep.—Stip. lanc. toothed silvery white.

Gen. XIV. *Polycarpon*.

1. Lower ls. 4 in whorl, ob. ov.; upper ones opposite—Fl. in crowded clusters—S. W. Co. very rare; Wa. pl. Channel Isles, common.

## ORD. XIII.—PORTULACACEÆ.

| Botanical Name.                  | Common Name.          | Soil<br>or<br>Situation.  | Colour.         | Growth. | Duration<br>and<br>time of<br>flowering. |
|----------------------------------|-----------------------|---------------------------|-----------------|---------|--|
| <b>Gen. I. Portulaca L.</b>      |                       |                           |                 |         |  |
| *1. <i>P. oleracea L.</i> . . .  | . . . . .             | Cult. gr. R. .            | Y.              | 6-18    | A. 6-8                                   |
| <b>Gen. II. Claytonia L.</b>     |                       |                           |                 |         |  |
| *1. <i>C. sibirica L.</i> . . .  | . . . . .             | Str. sides, wa.<br>pl. L. | W.<br>or<br>Ro. | 6-15    | A. or P.<br>5-8                          |
| *2. <i>C. perfoliata Donn.</i>   | . . . . .             | Waysides, wa.<br>pl. L.   | W.              | 4-12    | 4-6                                      |
| <b>Gen. III. Montia L.</b>       |                       |                           |                 |         |  |
| 1. <i>M. fontana L.</i> . . .    | <i>Blinks</i> . . .   | Dp. Heaths .              | W.              | 1-3 in. | A. 4-8                                   |
| <i>b. rivularis (Gmel.)</i> .    | <i>Water Blinks</i> . | Hills and<br>watery pl.   | W.              | 3-8 in. | A. 4-8                                   |
| 2. <i>M. lamprosperma Cham.</i>  | . . . . .             | Wet pl. . .               | W.              | 2-4 in. | A. 5-8                                   |
| <i>b. boreo-rivularis Lindb.</i> | . . . . .             | Mt. rills, etc.           | W.              | 3-8 in. | A. 5-8                                   |

## ORD. XIV.—TAMARICACEÆ.

|                                |                     |                            |           |     |          |
|--------------------------------|---------------------|----------------------------|-----------|-----|----------|
| <b>Gen. I. Tamarix L.</b>      |                     |                            |           |     |          |
| *1. <i>T. gallica L.</i> . . . | <i>Tamarisk</i> . . | S. & E. Co.<br>San. pl. R. | pk.<br>W. | . . | Shb. 7-9 |

## ORD. XV.—ELATINACEÆ.

|                              |                      |                                    |     |                |        |
|------------------------------|----------------------|------------------------------------|-----|----------------|--------|
| <b>Gen. I. Elatine L.</b>    |                      |                                    |     |                |        |
| 1. <i>E. Hydropiper L.</i> . | <i>Waterwort</i> . . | Marg. of Lakes<br>and pools. V. R. | Ro. | Cr.<br>1-3 in. | A. 7-9 |
| 2. <i>E. hexandra DC</i>     | „ . .                | Marg. of Lakes<br>and pools: R.    | Ro. | Cr.<br>1-3 in. | A. 7-9 |
| <i>b. sessiliflora Druce</i> | . . . . .            | . . . . .                          | . . | 1-2 in.        | . .    |

## ORD. XIII.—PORTULACACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Portulaca.**

- \*<sub>1</sub>. St. decumbent, branched—Pl. fleshy, glab.—Ls. alt.—Fl. sessile, terminal.

**Gen. II. Claytonia.**

- \*<sub>1</sub>. Rad. ls. ov. acum.—Upper ls. sessile, fl. mostly sol. pet. bifid.

- \*<sub>2</sub>. Rad. ls. rhomb.-spath.—Upper st. ls. 2 connate—Fls. racemose, pet. nearly ent. smaller than No. 1.

**Gen. III. Montia.**

1. Ls. not free at base ; st. short, rigid, erect or suberect ; ped. axill. and term.—Seeds dull black, thickly covered with acute tubercles.—*M. verna*, Neck.  
*b. St. long flaccid—Ped. alt. axill.—Growing in water—Seeds not acutely tubercled.*
2. Ls. free at base—St. rather flaccid, suberect—Seeds shining chestnut brown, reticulated with obscure tubercles—*M. fontana*, L. vera.  
*b. St. long flaccid, growing in water—Seeds as 2.*

## ORD. XIV.—TAMARICACEÆ.

**Gen. I. Tamarix.**

- \*<sub>1</sub>. Ls. minute, acute, adpr.—Fls. in short axill. spike.

## ORD. XV.—ELATINACEÆ.

**Gen. I. Elatine.**

1. Fl. sess. ; pet. 4 ov.—Sta. 8—Seeds curved.
2. Fl. stalked—Pet. 3 ob. ov.—Sta. 6—Seeds straight.  
*b. Fl. nearly sessile, seeds slightly curved, perhaps a hybrid.*



## ORD. XVI.—HYPERICACEÆ.

| Botanical Name.   | Common Name.                            | Soil<br>or<br>Situation.    | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|---|-----------------------------|---------|----------|--|
| <b>Gen. I. Hypericum L.</b>                               |   |                             |         |          |  |
| * *   |   |                             |         |          |  |
| 1. <i>H. Androsaemum L.</i>                               | <i>Tutsan</i> . . .                     | Thick. L. . .               | Y.      | 1-3 ft.  | P. 6-8                                   |
| *2. <i>H. hircinum L.</i> . .                             | <i>Stinking St.</i><br><i>John Wort</i> | Plants. . .                 | Y.      | 1-3 ft.  | P. 6-8                                   |
| *3. <i>H. elatum Ait.</i> . .                             | <i>Tall Tutsan</i> .                    | „ . .                       | Y.      | 2-4 ft.  | P. 6-8                                   |
| *4. <i>H. calycinum L.</i> . .                            | <i>Rose of Sharon</i>                   | „ . .                       | Y.      | 6-18 in. | P. 6-9                                   |
| * *   |   |                             |         |          |  |
| 5. <i>H. montanum L.</i> . .                              | <i>Mt. St. J. W.</i> .                  | Thick. on calc.<br>soil. L. | pY.     | 1-3 ft.  | P. 6-8                                   |
| 6. <i>H. hirsutum L.</i> . .                              | <i>Hairy St. J. W.</i>                  | Woods . .                   | Y.      | 1-3 ft.  | P. 7-8                                   |
| 7. <i>H. pulchrum L.</i> . .                              | <i>Upright St.</i> . .                  | Heaths . .                  | Y.      | 6-24 in. | P. 7-8                                   |
| <i>b. procumbens</i><br><i>Rostrup.</i>                   | . . . .                                 | Mts. and sea<br>cliffs      | Y.      | 6-12 in. | P. 7-8                                   |
| 8. <i>H. undulatum</i><br><i>Schousb.</i>                 | . . . .                                 | Boggy pl. L.                | Y.      | 2-3 ft.  | P. 7-8                                   |
| 9. <i>H. tetrapterum Fries.</i><br><i>(acutum Moench)</i> | <i>St. Peters Wort</i>                  | Wet pl. . .                 | Y.      | 1-2 ft.  | P. 7-8                                   |
| 10. <i>H. quadrangulum L.</i><br><i>(dubium Leers)</i>    | <i>Marsh St. J. W.</i>                  | Wet pl. . .                 | Y.      | 1-2½ ft. | P. 7-8                                   |
| <i>b. maculatum (Cr.)</i>                                 | . . . .                                 | . . . .                     | . .     | . .      | . .                                      |
| 11. <i>H. perforatum L.</i> . .                           | <i>St. J. W.</i> . .                    | Heaths and<br>dry pl.       | Y.      | 1-2½ ft. | P. 7-9                                   |
| <i>b. angustifolium</i><br><i>Gaud.</i>                   | . . . .                                 | . . . .                     | . .     | . .      | . .                                      |
| 12. <i>H. humifusum L.</i> . .                            | <i>Creeping St. J. W.</i>               | Heathy pl. .                | Y.      | 4-10 in. | P. 7-8                                   |
| <i>b. magnum Bast.</i> . .                                | . . . .                                 | . . . .                     | . .     | . .      | . .                                      |
| 13. <i>H. linariifolium Vahl.</i>                         | <i>Lin. leaved St. J.</i>               | Dry ro. pl. R.              | Y.      | 4-12 in. | P. 7-8                                   |
| 14. <i>H. elodes L.</i> . . . .                           | <i>Bog St. J.</i> . .                   | Spongy bogs                 | Y.      | 3-12 in. | P. 7-8                                   |

## ORD. XVII.—MALVACEÆ.

|                                 |                     |                               |                      |          |        |
|---------------------------------|---------------------|-------------------------------|----------------------|----------|--------|
| <b>Gen. I. Althæa L.</b>        |                     |                               |                      |          |        |
| 1. <i>A. officinalis L.</i> . . | <i>Marsh Mallow</i> | Marshes nr.<br>the sea        | Ro.                  | 2-3 ft.  | P. 8-9 |
| 2. <i>A. hirsuta L.</i> . . . . | <i>Hairy M.</i> . . | Dry pl. co. fie.<br>cult. gr. | p<br>Ro.<br>or<br>W. | 6-18 in. | A. 6-8 |

## ORD. XVI.—HYPERICACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Hypericum*.\* *Sta. in 5 bundles.*

1. St. erect, shrubby—Ls. lge. ov. blunt sess.—Fl. in term. cyme—Sty. 3 recurved.
- \*2. St. erect, shrubby—Ls. lanc. sess.—Sta. longer than pet.—Sty. 3 nearly straight.
- \*3. Similar to No. 1, but taller, ls. longer, tapering to an acute point—Sty. 3 nearly straight but longer than ovary and sta.
- \*4. Creeping, with erect shrubby st.—Ls. obl. sess.—Fl. sol. lge. (3-4 in.)—Sty. 5 straight.

\* \* *Sta. in 3 bundles.*

5. St. erect, glab.—Ls. ov. sess.—Sep. lanc. acute, with black glands—Fl. in dense cymes.
6. St. erect, hairy—Ls. ov. obl., shortly stalked—Pet. lanc. acute.
7. St. erect, round glab.—Ls. cord. amplex.—Sep. ov. obl.—Fl. tipped with red in bud.  
*b. Pl. procumbent.*
8. St. erect, branched, 4 edged—Ls. obl. wavy at edge with pellucid dots and veins—Sep. erect ov. lanc.-acute, bluntly crenate—Sty. not  $\frac{1}{2}$  as long as caps.—Bogs Dev. Cornw. and W.
9. St. erect, 4 winged—Ls. ov. with pelluc. dots and veins—Sep. erect lanc. acuminate, entire—Sty.  $\frac{1}{2}$  as long as caps.—Common.
10. St. erect, quadr., ls. ellip. ov. blunt, few or no pellucid dots—Sep. reflexed—Sty.  $\frac{1}{2}$  as long as caps.  
*b. Ls. somewhat narrower—Sep. reflexed with many black dots on outside.*
11. St. erect, 2 edged—Ls. obl. with pellucid dots—Sep. erect lanc. acute—Sty. as long as caps.  
*b. L. lin. obl.—Sep. lanc. acute, finely dentic.*
12. St. prost.—Ls. obl. glab.—Sep. unequal, entire—Sta. 15-20.  
*b. Sep. gland.-serr. with a few black dots beneath.*
13. St. erect or ascend.—Ls. lin. blunt.—Sep. lanc.-acute, with gland. teeth, and many black dots—Sta. about 30.
14. St. ascend.—Shaggy, rooting below—Ls. round-ov. sess. shaggy.

## ORD. XVII.—MALVACEÆ.

Gen. I. *Althæa*.

1. St. erect—Ls. ent. 5 lobed, velvety—Fl. cymose, axill.—Carp. downy.
2. St. hispid decumb.—Ls. upper with 3-5 acute lobes—Ped. axill. 1 fld.—Carp. glab.—A doubtful native.

ORD. XVII.—MALVACEÆ (*continued*).

| Botanical Name.  | Common Name.         | Soil<br>or<br>Situation. | Colour.                   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|----------------------|--------------------------|---------------------------|----------|--|
| <b>Gen. II. Lavatera L.</b>                              |                      |                          |                           |          |  |
| 1. <i>L. arborea</i> L. . .                              | <i>Tree Mallow</i> . | Marit roc. L.            | <i>pu</i><br>Ro.          | 3-8 ft.  | P. 7-9                                   |
| *2. <i>L. sylvestris</i> Brot. .<br>( <i>cretica</i> L.) | . . . .              | Wa. pl. R. .             | <i>p</i><br>Pu.           | 2-4 ft.  | P. 6-8                                   |
| <b>Gen. III. Malva L.</b>                                | <i>Mallow</i>        |                          |                           |          |  |
| 1. <i>M. moschata</i> L. .                               | <i>Musk Mallow</i> . | Grav. pl. . .            | Ro.                       | 2-3 ft.  | P. 7-8                                   |
| <i>b. heterophylla</i> Lej.                              | . . . .              | . . . .                  | . .                       | . .      | P. 7-8                                   |
| <i>c. integrifolia</i> Lej.                              | . . . .              | Grav. pl. R.             | . .                       | 1-2 ft.  | P. 7-8                                   |
| 2. <i>M. sylvestris</i> L. . .                           | <i>Common M.</i> .   | Wa. pl. . .              | <i>p</i><br>Pu.           | 2-3 ft.  | P. 6-9                                   |
| <i>b. lasiocarpa</i> Druce                               | . . . .              | . . R. . .               | . .                       | . .      | . .                                      |
| 3. <i>M. rotundifolia</i> L. .                           | <i>Dwarf M.</i> . .  | Wa. pl. . .              | Li.<br>or <i>p</i><br>Ro. | 6-18 in. | P. 6-9                                   |
| *4. <i>M. pusilla</i> With. .                            | <i>Small M.</i> . .  | Wa. pl. . .              | . .                       | 6-18 in. | P. 6-9                                   |

## ORD. XVIII.—TILIACEÆ.

|   |                        |               |             |            |        |
|---|------------------------|---------------|-------------|------------|--------|
| <b>Gen. I. Tilia L.</b>                                   | <i>Lime</i>            |               |             |            |        |
| 1. <i>T. platyphyllos</i> Scop.<br>( <i>grandifolia</i> ) | <i>Broad-leaved L.</i> | Roc. wo. R.   | <i>y</i> G. | 20-120 ft. | T. 6-7 |
| *2. <i>T. europæa</i> L. . .                              | <i>Common L.</i> . .   | Parks, etc. . | <i>y</i> G. | 20-120 ft. | T. 6-7 |
| ( <i>intermedia</i> )                                     |                        |               |             |            |        |
| 3. <i>T. ulmifolia</i> Scop. .                            | <i>Small-leaved L.</i> | Wo. L. . . .  | <i>y</i> G. | 20-100 ft. | T. 7-8 |
| ( <i>parvifolia</i> )                                     |                        |               |             |            |        |

## ORD. XIX.—LINACEÆ.

|   |                         |                                    |             |          |        |
|---|-------------------------|------------------------------------|-------------|----------|--------|
| <b>Gen. I. Radiola Hill.</b>                              |                         |                                    |             |          |        |
| 1. <i>R. Linoides</i> Roth. .<br>( <i>R. Millegrana</i> ) | <i>All-seed</i> . . .   | Dp. bare spots<br>on heathy pl. L. | W.          | 1-3 in.  | A. 7-8 |
| <b>Gen. II. Linum L.</b>                                  | <i>Flax</i>             |                                    |             |          |        |
| *   |                         |                                    |             |          |        |
| 1. <i>L. angustifolium</i><br><i>Huds.</i>                | <i>Narrow-leaved F.</i> | Dry pl. in S.E.<br>L.              | <i>p</i> B. | 1-2 ft.  | P. 7-8 |
| *2. <i>L. usitatissimum</i> L.                            | <i>Flax. Linseed</i>    | W. pl. . . .                       | B.          | 1-2 ft.  | A. 7-9 |
| 3. <i>L. perenne</i> L. . .                               | <i>Perennial F.</i> .   | Calc. gr. R. .                     | B.          | 1-2 ft.  | P. 6-7 |
| * *   |                         |                                    |             |          |        |
| 4. <i>L. catharticum</i> L. .                             | <i>Purging F.</i> . .   | Past. & Downs                      | W.          | 2-10 in. | A. 6-8 |



ORD. XVII.—MALVACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. II. Lavatera.**

1. St. woody stout—Ls. 7 angled, plaited, soft.
- \*2. St. herbac. hispid—Habit of *Malva sylvestris* but differs in its 3-lobed outer calyx.—Scilly and Ch. Isles.

**Gen. III. Malva.**

1. St. erect—Fl. crowded on sol. axill. ped.—Ls. palm. with 5-7 deep pinnfid. lobes—Fr. hairy.
  - b. *Lr. ls. ent. ren., upper deeply cut.*
  - c. *All ls. ent., or upper faintly lobed.*
2. St. ascend.—Fl. in axill. fascic.—Pet. much longer than cal.—Ls. reni.—Fr. glab.
  - b. *Fruit hairy.*
3. St. prost.—Ls. cord. smaller than 2—Pet. small—Fr. not retic. pubesc.
- \*4. St. prost.—Pet. scarcely exceeding cal.—Fr. netted rugose = *M. borealis* W.

## ORD. XVIII.—TILIACEÆ.

**Gen. I. Tilia.**

1. Ls. downy beneath with simp. hairs—Fr. downy with 3-5 prom. ribs—Young branches downy—Cymes pendulous.
- \*2. Ls. glab. beneath, with a woolly tuft on axils of nerves—Fr. coriaceous, hairy, not ribbed—Cymes pendulous, perhaps 1 × 3.
3. Ls. sm. glauc. beneath, with a woolly tuft in the axils of nerves—Fr. ang. thin and brittle—Cymes erect—Young branches, glabrous—*T. cordata*.

## ORD. XIX.—LINACEÆ.

**Gen. I. Radiola.**

1. St. repeatedly forked—Ls. ov. ent.—Fl. axill. and term.

**Gen. II. Linum.**

\* *Fl. blue—Ls. scattered.*

1. Rootstock with many stems—Per.—Ls. lin. lanc.—Sep. ellip., 3 ribbed, mucro.
- \*2. Rootstock mainly 1-stemmed—Ann.—Ls. lin. lanc.—Sep. ov. acute, 3 nerved, ciliate.
3. Rootstock with many stems—Per.—Ls. lin. acute—Sep. ob. ov. 5 ribbed obt. glab.
  - \* \* *Fl. white—Ls. oppos.*
4. St. much branched—Ls. obl.—Sep. acum. 1 nerved—Panicle forked, spreading.

## ORD. XX.—GERANIACEÆ.

| Botanical Name.                     | Common Name.               | Soil<br>or<br>Situation.     | Colour.          | Growth.  | Duration<br>and<br>time of<br>flowering. |
|-------------------------------------|----------------------------|------------------------------|------------------|----------|--|
| <b>Gen. I. Geranium L.</b>          | <i>Crane's-bill</i>        |                              |                  |          |  |
| 1. <i>G. sanguineum L.</i>          | <i>Bloody Crane's-bill</i> | Roc. pl. L.                  | Cr.              | 1-2 ft.  | P. 7-8                                   |
| <i>b. prostratum</i><br>(Cav.)      | . . . .                    | Sandy co. L.                 | Cr.              | 1-2 ft.  | 7-8                                      |
| <i>c. lancastriense</i><br>(Mill.)  | . . . .                    | Isle of Wal-<br>ney. R.      | Pk.              | 1-2 ft.  | 7-8                                      |
| <i>d. micranthum</i><br>F. B. White | . . . .                    | Rannoch. R.                  | Cr.              | 1-1½ ft. | 7-8                                      |
| *2. <i>G. versicolor L.</i> . .     | . . . .                    | Roadsides,<br>etc. R.        | W.<br>and<br>Pk. | 1-2 ft.  | 7-8                                      |
| *3. <i>G. nodosum L.</i> . .        | . . . .                    | Plants. etc. R.              | Ro.<br>Pu.       | 1-2 ft.  | 7-8                                      |
| 4. <i>G. sylvaticum L.</i> .        | <i>Mt. Cr.-bill</i> . .    | Mt. dist. of<br>N. Brit.     | pu.<br>B.        | 1-2 ft.  | 6-8                                      |
| <i>b. parviflorum</i><br>Blytt      | . . . .                    | Scot. R. . .                 | pu.<br>B.        | 1-2 ft.  | 6-8                                      |
| <i>c. Wanneri Briq.</i>             | . . . .                    | Perth. R. . .                | Ro.              | 1-2 ft.  | 6-8                                      |
| 5. <i>G. pratense L.</i> . .        | <i>Meadow Cr.</i> . .      | Dp. pl. osier<br>holts, etc. | b.<br>Pu.        | 1-3 ft.  | P. 6-7                                   |
| *6. <i>G. phaeum L.</i> . .         | <i>Dusky Cr.</i> . .       | Plants. etc. R.              | pu.<br>Blk.      | 1-3 ft.  | P. 6-8                                   |
| <i>b. lividum L'Hér.</i>            | . . . .                    | ,,                           | dull<br>Pu.      | 1-3 ft.  | P. 6-8                                   |
| 7. <i>G. pyrenaicum Burm.</i>       | <i>Mt. Cr.</i> . . .       | Waysides. L.                 | r.<br>Pu.        | 1-2 ft.  | P. 6-8                                   |
| * *                                 |                            |                              |                  |          |  |
| 8. <i>G. columbinum L.</i> .        | <i>Long-stalked Cr.</i>    | Calc. pl. . .                | Ro.              | 1-2 ft.  | A. 6-8                                   |
| 9. <i>G. dissectum L.</i> . .       | <i>Jagged-leaved Cr.</i>   | Cult. gr. etc.               | R.               | 6-18 in. | A. 6-8                                   |
| 10. <i>G. molle L.</i> . . .        | <i>Dove's-foot Cr.</i> .   | Cult. gr. etc.               | Pk.              | 6-12 in. | A. 4-9                                   |
| <i>b. aequale Bab.</i> . .          | . . . .                    | . . . .                      | . .              | . .      | . .                                      |
| <i>c. grandiflorum</i><br>Vis.      | . . . .                    | . . . .                      | . .              | . .      | . .                                      |
| 11. <i>G. rotundifolium L.</i>      | <i>Round-leaved Cr.</i>    | Waysides. L.                 | Pk.              | 6-12 in. | A. 5-8                                   |
| 12. <i>G. pusillum L.</i> . .       | <i>Sm. Cr.</i> . . . .     | Waysides,<br>cult. gr.       | Pk.              | 6-18 in. | A. 6-8                                   |
| 13. <i>G. lucidum L.</i> . . .      | <i>Shining Cr.</i> . . .   | Rocky pl. . .                | Ro.              | 6-12 in. | A. 5-8                                   |
| 14. <i>G. Robertianum L.</i>        | <i>Herb Robert</i> . .     | Hedges, etc.                 | Pk.              | 6-24 in. | A. 5-8                                   |
| <i>b. purpureum Forst.</i>          | . . . .                    | Shingle, etc.                | . .              | . .      | . .                                      |
| <i>c. modestum (Jord.)</i>          | . . . .                    | . . . .                      | Ro.              | . .      | . .                                      |
| <b>Gen. II. Erodium L'Hér.</b>      | <i>Stork's-bill</i>        |                              |                  |          |  |
| 1. <i>E. maritimum L'Hér.</i>       | <i>Sea Stork's-bill</i>    | Bare pl. nr.<br>coast. R.    | Pk.              | 4-18 in. | B. 5-8                                   |
| 2. <i>E. moschatum L'Hér.</i>       | <i>Musky St.</i> . . .     | W. pl. R. . .                | Pu.              | 4-24 in. | A. 6-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Geranium.**

1. St. ascend. or erect—Fl. large, usually sol.—Ls. orb. 5-7 part., with trifid lobes.
  - b. St. prost. sometimes rooting—Ls. less deeply divided.*
  - c. St. decumb. or prost.—Fl. white, or pale pink, with red veins.*
  - d. Fl. smaller, not much longer than sep.*
- \* 2. St. erect, hairy—Pet. white, veined with purple.
 

\* *Pedunc. two flowered—Perennial.*
- \* 3. St. erect, glab.—Stem ls. trifid, lobes ov. acum. serr.—Pet. pale rose purple.
4. St. erect—Ls. sub-pelt., 7-part., lobes cut and serr.—Pet. faintly notched,  $\frac{1}{2}$ – $\frac{3}{4}$  in.—Fr. stalk erect.
  - b. Flowers smaller  $\frac{1}{2}$  in. or less.*
  - c. Fl. rose cold. with dark veins.*
5. St. erect—Ls. orb. 5-7 part., lobes lacin. ; seg. acute—Pet. slightly notched—Fr. stalk reflexed—Fl. large, 1–1 $\frac{1}{4}$  in.
- \* 6. St. erect—Ls. orb. and 3-7 lobed, lobes acute, cut serr.—Pet. waved, purplish-black—Fl.  $\frac{3}{4}$  in.
  - b. Pet. dull-purple—Emarginate.*
7. No rhizome, St. straggling—Ls. reni., 5-7 part. lobes obt. trifid—Pet. deeply notched—Fl.  $\frac{1}{2}$  in.
 

\* \* *Annual.*
8. Pet. ent.—Caps. glab.—Seeds dotted—Fls. ( $\frac{1}{2}$ – $\frac{5}{8}$  in.) on long stalks.
9. Pet. notched—Caps. even, hairy—Seeds pitted—Ls. segm. lin.—Fls. ( $\frac{1}{4}$ – $\frac{1}{2}$  in.) shortly stalked.
10. Pet. deeply notched ( $\frac{1}{4}$ – $\frac{1}{3}$  in.)—Caps. wrinkled glab.—Seeds smooth.
  - b. Caps. not wrinkled.*
  - c. Fls. larger  $\frac{1}{3}$ – $\frac{1}{2}$  in.*
11. Pet. ent.—Caps. keeled, not wrinkled, with spread. hair—Seeds dotted.
12. Pet. notched—Fl.  $\frac{1}{4}$ – $\frac{1}{3}$  in.—Caps. keeled, hairs adpressed—Seeds smooth.
13. Pet. ent. ob.-ov.—Fls.  $\frac{1}{4}$ – $\frac{1}{3}$  in.—Caps. reticulate—Seeds smooth—St. and ls. glab. spreading, shining, and tinged with red.
14. Pet. ent.—Fls.  $\frac{1}{2}$  in. streaked—Caps. transversely wrinkled, downy—Seeds smooth—Ls. tern. or quin., with pinnfid. lfts.—Anthers red.
  - b. Sep. gland. hairy—Caps. glab.—Ls. narrower.*
  - c. Sm. flowers  $\frac{1}{4}$ – $\frac{1}{3}$  in.—Pl. glabr. fleshy.—Anthers yell.—Pedunc. gland.*

**Gen. II. Erodium.**

1. Ls. toothed or lobed, not cut into segments—Ped. 1-2 fl.—Pet. sm. or o.
2. Ls. pinn.—Segm. ov. coarsely toothed—Stip. ov.—Pl. larger than 3—Fl. bl. purple.



ORD. XX.—GERANIACEÆ (*continued*).

| Botanical Name.   | Common Name.                             | Soil<br>or<br>Situation. | Colour.               | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--|--------------------------|-----------------------|----------|--|
| <b>Gen. II. <i>Erodium</i> L'Hér</b><br>( <i>continued</i> ). |  |                          |                       |          |  |
| 3. <i>E. cicutarium</i> L'Hér.                                | <i>Hemlock St.</i>                       | Sandy gr. hea.<br>etc.   | Ro.                   | 3-18 in. | B. 5-8                                   |
| <i>b. pimpinellifolium</i><br>(Sibth.)                        | . . . .                                  | Cult. gr. R. .           | Ro.                   | 4-12 in. | B. 5-8                                   |
| <i>c. glandulosum</i><br>Bosch.                               | . . . .                                  | Marit.sand. L.           | p.<br>Pk.             | 3-12 in. | B. 5-8                                   |
| <b>Gen. III. <i>Oxalis</i> L.</b>                             |  |                          |                       |          |  |
| 1. <i>O. Acetosella</i> L. .                                  | <i>Wood Sorrel</i>                       | Wo. & sha. pl.           | p.<br>Li.<br>or<br>W. | 3-6 in.  | P. 5-8                                   |
| <i>b. subpurpurascens</i><br>DC.                              | . . . .                                  | . . . .                  | p.<br>Pu.             | . .      | . .                                      |
| *2. <i>O. corniculata</i> L. .                                | <i>Yellow Oxalis</i> .                   | Waysides,<br>w. pl.      | Y.                    | 6-18 in. | A. 6-9                                   |
| *3. <i>O. stricta</i> L. . . .                                | . . . .                                  | W. pl. . . .             | Y.                    | 6-18 in. | A. 6-9                                   |
| <b>Gen. IV. <i>Impatiens</i> L.</b>                           |  |                          |                       |          |  |
| 1. <i>I. Noli-tangere</i> L. .                                | <i>Balsam</i><br><i>Yellow Balsam</i>    | Roc. wo. R. .            | Y.                    | 1-3 ft.  | A. 7-9                                   |
| *2. <i>I. biflora</i> Walt. . .                               | <i>Orange Balsam</i><br>( <i>fulva</i> ) | Streamsides L.           | O.<br>and<br>Y.       | 1-3 ft.  | A. 7-10                                  |
| *3. <i>I. parviflora</i> DC. .                                | <i>Sm. Yell. B.</i> .                    | Wo. & w. p.              | p Y.                  | 1-2 ft.  | A. 7-9                                   |
| *4. <i>I. glandulifera</i> Royle                              | <i>Indian B.</i> . .                     | Riverside and<br>w. pl.  | Pk.<br>and<br>Ro.     | 3-5 ft.  | A. 7-10                                  |

## ORD. XXI.—AQUIFOLIACEÆ.

|                               |                      |              |     |           |                 |
|-------------------------------|----------------------|--------------|-----|-----------|-----------------|
| <b>Gen. I. <i>Ilex</i> L.</b> |                      |              |     |           |                 |
| 1. <i>I. Aquifolium</i> L. .  | <i>Holly</i> . . . . | Wo. & hed. . | yW. | 10-70 ft. | Sm. tree<br>5-8 |
| <i>b. laurifolia</i> Lej. .   | . . . .              | . . . .      | . . | . .       | . .             |

## ORD. XXII.—CELASTRACEÆ.

|                                   |                         |              |     |          |        |
|-----------------------------------|-------------------------|--------------|-----|----------|--------|
| <b>Gen. I. <i>Evonymus</i> L.</b> |                         |              |     |          |        |
| 1. <i>E. europæus</i> L. . .      | <i>Spindle-tree</i> . . | Hedges, etc. | gW. | 5-20 ft. | T. 5-6 |

ORD. XX.—GERANIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. II. *Erodium*** (*continued*).

3. Ls. deeply pinn.—Segm. with toothed lobes—Stip. lanc.—Pl. very variable in size.  
*b. 2 petals with spot at base.*  
*c. Densely glandular.*

**Gen. III. *Oxalis*.**

1. Stemless—Ls. radi., trifol. long stalked—Ped. 1 flowered.

*b. Fl. rose-purple, or lilac, or lilac-blue.*

- \*2. St. diff. with proc. branches, pubesc.—Ped. 2 flowered, shorter than ls.—Stip. obl.  
 \*3 St. erect, sub-glab.—Ped. 2-8 flowered, longer than ls.—Stip. o.

**Gen. IV. *Impatiens*.**

1. Ls. obt.—Fl. lge. ( $1\frac{1}{4}$  in.) pale-yellow, dotted with red, spur loosely recurved.  
 \*2. Ls. more acute—Fl. bright orange spotted with red, spur closely reflexed, emarginate.  
 \*3. Ls. ellip. acute at both ends, serr.—Fl. sm. pale-yell., spur short straight.  
 \*4. Stem stout—Fl. lge. rose-purple.

## ORD. XXI.—AQUIFOLIACEÆ.

**Gen. I. *Ilex*.**

1. Ls. spiny, ovate, evergreen, berries red, rarely yell.  
*b. Ls. not spiny.*

## ORD. XXII.—CELASTRACEÆ.

**Gen. I. *Evonymus*.**

1. Ls. ovate, lanc. serr. glab.—Fl. 4-cleft, umbell.—Fr. rose-col. with orange aril, in which is seed.

## ORD. XXIII.—RHAMNACEÆ.

| Botanical Name.                 | Common Name.               | Soil or Situation.           | Colour. | Growth.  | Duration and time of flowering. |
|---------------------------------|----------------------------|------------------------------|---------|----------|---------------------------------|
| <b>Gen. I. Rhamnus L.</b>       |                            |                              |         |          |                                 |
| 1. <i>R. Frangula L.</i> . .    | <i>Berry-bearing Alder</i> | Peaty heaths and woods       | gW.     | 5-15 ft. | Sh. 5-9                         |
| 2. <i>R. catharticus L.</i> . . | <i>Buckthorn</i> . .       | Hedges, etc., on calc. soil. | y G     | 5-10 ft. | Sh. 5-7                         |

## ORD. XXIV.—ACERACEÆ.

|                                  |                      |                    |     |           |        |
|----------------------------------|----------------------|--------------------|-----|-----------|--------|
| <b>Gen. I. Acer L.</b>           |                      |                    |     |           |        |
| *1. <i>A. Pseudo-Platanus L.</i> | <i>Sycamore</i> . .  | Hedges and Plants. | G.  | 40-60 ft. | T. 5-6 |
| 2. <i>A. campestre L.</i> . .    | <i>Maple</i> . . . . | Hedges and Woods   | G.  | 10-30 ft. | T. 5-6 |
| <i>b. leiocarpon Wallr.</i>      | . . . .              | . . . .            | . . | . .       | . .    |

## ORD. XXV.—LEGUMINOSÆ.

|                                  |                          |                         |        |          |           |
|----------------------------------|--------------------------|-------------------------|--------|----------|-----------|
| <b>*Gen. I. Lupinus L.</b>       |                          |                         |        |          |           |
| *1. <i>L. nootkatensis Donn.</i> | <i>Lupine</i> . . .      | River Shingle in Scotl. | B.     | 1-2 ft.  | P. 7-8    |
| <b>Gen. II. Genista L.</b>       |                          |                         |        |          |           |
| 1. <i>G. anglica L.</i> . . .    | <i>Petty Whin</i> . .    | Heaths . .              | Y.     | 1-2 ft.  | Shb. 5-7  |
| 2. <i>G. pilosa L.</i> . . .     | <i>Hairy Green Weed</i>  | Heaths. R. .            | Y.     | 6-12 in. | Shb. 5-9  |
| 3. <i>G. tinctoria L.</i> . .    | <i>Dyer's Green Weed</i> | Coarse past.            | Y.     | 1-2 ft.  | Shb. 7-9  |
| <i>b. humifusa (Dicks.)</i>      | . . . .                  | Lizard Coast. R.        | Y.     | 6-12 in. | 6-8       |
| <b>Gen. III. Ulex L.</b>         |                          |                         |        |          |           |
| 1. <i>U. europæus L.</i> . .     | <i>Furze, Gorse</i> .    | Heaths.                 | Y.     | 2-6 ft.  | Shb. 2-7  |
| <i>b. strictus (Mack.)</i> .     | <i>Irish F.</i> . . .    | V. R.                   | Y.     | 1-2 ft.  | . .       |
| 2. <i>U. Gallii Planch.</i> .    | <i>Western F.</i> . .    | Heath W. of E.          | or. Y. | 1-5 ft.  | Shb. 7-11 |
| <i>b. humilis Planch.</i> .      | . . . .                  | . . . .                 | . .    | ½-1 ft.  | . .       |
| 3. <i>U. minor Roth.</i> . .     | <i>Small F.</i> .        | Heath S. and E. of Eng. | Y.     | 1-3 ft.  | Shb. 7-11 |



## ORD. XXIII.—RHAMNACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Rhamnus.**

1. Branches unarmed alt.—Ls. ob.-ov. ent.—Fls. 5 cleft, perfect.
2. Branches spinous, opp.—Ls. ov. serr.—Fls. 4 cleft, diœcious.

## ORD XXIV.—ACERACEÆ.

**Gen. I. Acer.**

- \*1. Ls. 5-lobed, unequally serr.—Racemes pendulous.
  2. Ls. 5-lobed, crenate ; corymbs erect, ovary downy.
- b. Ovary at base of wing glabrous.*

## ORD. XXV.—LEGUMINOSÆ.

**Gen. I. Lupinus.**

- \*1. St. stout, leafy—Ls. of 6-8 cuneate. obl. lfts.—Bract longer than buds—Pl. villous—Fls. showy—River shingle of Dee, and other Scottish rivers.

**Gen. II. Genista.**

1. Spinous, ascend.—Ls. ov. lanc.—Fl. sol. axill.—Pods glab.
  2. St. procumb.—Ls. lanc. obt.—Stip. ov. blunt—Pods hairy.
  3. St. erect, glab.—Ls. lanc.—Stip. minute, subulate—Pod glab.
- b. Plant procumbent, pods hairy on back of each valve.*

**Gen. III. Ulex.**

1. St. erect—Spines strong, rigid—Cal. with lax ov. bracts, and spr. hairs—Wing longer than keel.
- b. Primary spines small, slender, tetragonal.*
2. Prim. spines strong, smooth—Cal. finely downy, wing longer than keel.
- b. Pl. small, prostrate, Ch. Isles, Ireland, and Cornw.*
3. Prim. spines slender, smooth—Cal. finely downy, wing shorter than keel, bract very small adpressed.

ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.                                       | Common Name.                          | Soil<br>or<br>Situation.       | Colour.           | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|---------------------------------------|--------------------------------|-------------------|----------|--|
| <b>Gen. IV. Cytisus L.</b>                            |                                       |                                |                   |          |  |
| 1. <i>C. scoparius Link.</i>                          | <i>Broom</i> . . .                    | Heathy pl. .                   | Y.                | 1-6 ft.  | Shb. 5-6                                 |
| <i>b. prostratus (Bailey)</i>                         | . . . .                               | Near Coast .                   | Y.                | 1-3 ft.  | Shb. 5-6                                 |
| <b>Gen. V. Ononis L.</b>                              |                                       |                                |                   |          |  |
| 1. <i>O. reclinata L.</i> . .                         | <i>Small Rest<br/>Harrow</i>          | In short turf<br>nr. Co. V. R. | Ro.               | 1-6 in.  | A. 5-6                                   |
| 2. <i>O. repens L.</i> . . .<br>( <i>arvensis</i> )   | <i>Rest Harrow</i> .                  | Barren sandy<br>pl.            | Ro.               | 1-2 ft.  | P. 6-9                                   |
| <i>b. horrida Lange</i> .                             | . . . . .                             | . . . . .                      | Ro.               | 6-18 in. | P. 6-9                                   |
| 3. <i>O. spinosa L.</i> . .                           | <i>Spiny Rest<br/>Harrow</i>          | Coarse past.<br>and downs      | Ro.               | 6-18 in. | P. 6-9                                   |
| <i>b. mitis L.</i> . . . .                            | . . . . .                             | . . . . .                      | . .               | . . .    | . . .                                    |
| <b>Gen. VI. Trigonella L.</b>                         |                                       |                                |                   |          |  |
| 1. <i>T. M. ornithopodiodes DC.</i>                   | <i>Fœnugreek<br/>Bird's-foot F.</i> . | San. pas. L.                   | Pk.<br>or<br>W.   | 2-8 in.  | A. 6-7                                   |
| <b>Gen. VII. Medicago L.</b>                          |                                       |                                |                   |          |  |
| * <i>Medick</i>                                       |                                       |                                |                   |          |  |
| 1. <i>M. Falcata L.</i> . . .                         | <i>Yellow Medick.</i>                 | Heath, dry bk.<br>w. pl. R.    | Or.               | 6-24 in. | P. 6-7                                   |
| 2. <i>M. sylvestris Fries.</i>                        | . . . . .                             | do. R. . . . .                 | Yel.<br>to<br>Gr. | 6-24 in. | P. 6-7                                   |
| *3. <i>M. sativa L.</i> . . . .                       | <i>Lucerne</i> . . . .                | Cult. gr. rail-<br>way bks.    | Pu<br>Vi.         | 1-2 ft.  | P. 6-8                                   |
| * * *   |                                       |                                |                   |          |  |
| 4. <i>M. denticulata Willd.</i>                       | <i>Dentic. M.</i> . . .               | W. pl. L. . .                  | Y.                | 6-24 in. | A. 5-8                                   |
| <i>b. apiculata (Willd.)</i>                          | . . . . .                             | W. pl. R. . .                  | Y.                | . . .    | . . .                                    |
| <i>c. lappacea (Desr.)</i> .                          | . . . . .                             | W. pl. R. . .                  | Y.                | . . .    | . . .                                    |
| 5. <i>M. arabica Huds.</i> .                          | <i>Spotted M.</i> . . .               | Past. w. pl. L.                | Y.                | 6-24 in. | A. 5-8                                   |
| 6. <i>M. minima Desr.</i> .                           | <i>Small M.</i> . . .                 | San. pl. R. .                  | Y.                | 6-12 in. | A. 5-7                                   |
| 7. <i>M. lupulina L.</i> . .                          | <i>Black M. or<br/>Nonsuch</i>        | Past. etc. . .                 | Y.                | 6-24 in. | A. 5-8                                   |
| <i>b. Willdenowiana<br/>Koch</i>                      | . . . . .                             | . . . . .                      | . .               | . . .    | . . .                                    |
| <i>c. scabra Gray</i> . .                             | . . . . .                             | . . . . .                      | . .               | . . .    | . . .                                    |
| <b>Gen. VIII. Melilotus</b>                           |                                       |                                |                   |          |  |
| <i>Hill</i>   |                                       |                                |                   |          |  |
| 1. <i>M. officinalis Lam.</i><br>( <i>altissima</i> ) | <i>Melilot</i> . . .                  | Woods, way-<br>sides, w. pl.   | Y.                | 2-3 ft.  | B. 6-8                                   |
| *2. <i>M. alba Desr.</i> . . .                        | <i>White Melilot</i> .                | W. pl. . . .                   | W.                | 2-6 ft.  | B. 6-8                                   |
| *3. <i>M. arvensis Wallr.</i>                         | <i>Melilot</i> . . .                  | W. pl. . . .                   | Y.                | 1-3 ft.  | B. 6-8                                   |
| *4. <i>M. indica All.</i> . .                         | <i>Small Melilot</i> .                | W. pl. . . .                   | Y.                | 6-12 in. | A. 6-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IV. Cytisus** (*Sarothamnus* of last edit.).

1. St. branched, erect, green—Ls. tern. lfts. ob. ov. silky—Fl. large on short pedicels.
- b. Quite prostrate—Chan. Isles ; Kynance, Cornwall.*

**Gen. V. Ononis.**

1. St. ascend.—Visc. pubesc.—Pod reflexed, cylind.—Devon, Alderney.
2. St. proc., hairy all round, spines o.—Pod erect, ov., shorter than cal.

*b. Plant spiny.*

3. St. erect, spinous, with 2 rows of hairs—Pod erect, longer than cal.

*b. Plant not spinous.*

**Gen. VI. Trigonella.**

1. St. prost., glab.—Lfts. ov. cord., toothed—Ped. axill., 3 fld.—Fr. curved.

**Gen. VII. Medicago.**

*\* Pods without spines.*

1. St. decumb.—Pod straightly sickle-shaped, not forming a ring.
2. St. ascend.—Pod forming one complete ring—Fl. yell. changing to green.

- \*3. St. erect—Pod loosely spiral with 2 or 3 turns—Fl. varying shades of purple, sometimes yellowish-white.

*\*\* Pods edged with spines : compactly spiral.*

4. St. prost.—Pod deeply netted—Stip. lacin.—Spines long—Ped. 1-5 fl.—Pl. glab.

*b. Spines very short, without hooks. Ped. 3-10 fl.*

*c. Heads twice as large, spines stronger, seeds broader.*

5. St. prost.—Lfts. ob. cord. often spotted—Stip. dent.—Pod with 4 ridges and central furrow on the edge—Edge of pod broad—Pl. nearly glab.

6. St. prost. rigid—Pod subglobose, 4 spiral narrowly keeled—Pl. more or less pubescent.

7. Fruit not spiny—St. proc.—Fl. in dense oval spike—Pod reni., black when ripe, glabrous.

*b. Pods with glandular hairs.*

*c. Pods rough, with simple hairs.*

**Gen. VIII. Melilotus.**

1. Fl. yell.—Pet. all equal—Pod acute, hairy.

- \*2. Fl. white—Standard longer than keel or wing—Pod acute, glab.

- \*3. Fl. yell. (rarely white *M. Petitpierreana*) wing and standard longer than keel—Pod obt., ribbed, glab.

- \*4. Pet. yell., cal. reddish brown—Pod glob. ovoid blunt, netted, glab.—Pl. smaller in all its parts (*M. parviflora* of last edit.).



ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.                        | Common Name.                | Soil<br>or<br>Situation.                | Colour.               | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------------|---|-----------------------|-----------|--|
| <b>Gen. IX. Trifolium L.</b>           | <i>Clover, Trefoil</i>      |   |                       |           |  |
| *<br>1. <i>T. medium</i> Huds. .       | <i>Zigzag Trefoil.</i>      | Elevated<br>past. L.                    | cr.<br>Pu.            | 6-18 in.  | P. 5-9                                   |
| 2. <i>T. pratense</i> L. . .           | <i>Common T.<br/>Clover</i> | Past. etc. .                            | Pu.                   | 3-18 in.  | P. 5-9                                   |
| * <i>b. sativum</i> Schreb.            | <i>Cult. Clover</i> .       | Cult. gr. and<br>waysides               | Pu.                   | 12-18 in. | P. 5-9                                   |
| * <i>c. americanum</i><br>Harz.        | „ „                         | „ „                                     | „                     | . .       | . .                                      |
| <i>d. parviflorum</i> Bab.             | . . . .                     | Waysides, etc.                          | „                     | 6-12      | P.                                       |
| <i>e. leucochraceum</i> ,<br>A. and P. | . . . .                     | . . . .                                 | yW.                   | . .       | . .                                      |
| 3. <i>T. ochroleucon</i> Huds.         | <i>Sulphur T.</i> . .       | Waysides in<br>E. Eng. L. .             | Cm.                   | 6-18 in.  | P. 6-8                                   |
| * * *                                  |                             |   |                       |           |  |
| *4. <i>T. incarnatum</i> L. .          | <i>Trefoil</i> . . .        | Cult. fie. . .                          | Sc.                   | 6-18 in.  | A. 6-7                                   |
| <i>b. stramineum</i><br>Presl.         | . . . .                     | . . . .                                 | . .                   | . .       | . .                                      |
| 5. <i>T. Molinerii</i> Balb. .         | . . . .                     | Turf nr. Co.<br>Lizard and<br>Ch. Isles | pk.<br>W.             | 6-12 in.  | A. 5-6                                   |
| *6. <i>T. stellatum</i> L. . .         | <i>Starry T.</i> . .        | Shingle, Shore-<br>ham, etc.            | Cm.                   | 4-12 in.  | A. 6-8                                   |
| 7. <i>T. arvense</i> L. . . .          | <i>Hare's-foot T.</i> .     | Sandy pl. .                             | p.<br>Pk.             | 3-12 in.  | A. 7-9                                   |
| <i>b. strictius</i> Koch .             | . . . .                     | Slate débris. R.                        | . .                   | 4-8 in.   | . .                                      |
| <i>c. perpusillum</i> DC.              | . . . .                     | Marit. sands                            | . .                   | 3-6 in.   | . .                                      |
| 8. <i>T. squamosum</i> L. .            | <i>Maritime T.</i> .        | Stiff soil nr.<br>coast. L.             | pR.                   | 6-18 in.  | A. 6-7                                   |
| (maritimum)                            |                             |   |                       |           |  |
| 9. <i>T. Bocconeii</i> Savi .          | <i>Boccone's T.</i> .       | Short turf,<br>Cornwall. R.             | pY.                   | 2-4 in.   | A. 6-7                                   |
| 10. <i>T. scabrum</i> L. . .           | <i>Rough T.</i> . .         | Dry fie. . .                            | W.<br>or<br>pk.<br>W. | 2-10 in.  | A. 5-7                                   |
| 11. <i>T. striatum</i> L. . .          | <i>Soft Knotted T.</i>      | Dry sand. fie.                          | Ro.                   | 2-12 in.  | A. 6-7                                   |
| <i>b. erectum</i> Gaspar.              | . . . .                     | Cult. fie. or in<br>shaded pl.          | Ro.                   | 6-12 in.  | A. 6-7                                   |
| 12. <i>T. subterraneum</i> L.          | <i>Subterranean T.</i>      | Dry past. L.                            | W.<br>or<br>cm.<br>W. | 2-18 in.  | A. 5-6                                   |
| * * *                                  |                             |   |                       |           |  |
| 13. <i>T. fragiferum</i> L. .          | <i>Strawberry T.</i> .      | In past. on<br>stiff soil               | Ro.                   | 6-12 in.  | P. 7-9                                   |
| *14. <i>T. resupinatum</i> L. .        | <i>Reversed T.</i> .        | W. pl. . .                              | cr.<br>Ro.            | 4-9 in.   | A. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Trifolium*.\* *Perennial*.

1. Heads term. ovoid—St. zigzag—Lfts. 1-2 in. rather acute—Cal. glab.—Stip.  $\frac{3}{4}$ -1½ in., the free parts herbaceous—Leaves larger and firmer—Fls. brighter tint than No. 2.

2. Head term. ovate—St. sub-erect—Lfts. ½-1½ in., rather blunt—Stip. memb.

\**b. Heads large—Lfts. 1-1½ in.—Stem with adpressed hairs.*

\**c. „ „ „ —Stem with patent hairs.*

*d. Heads small, stalked—Flowers not longer than calyx teeth.*

*e. Heads fewer flowered, fl. yellowish-white.*

3. Heads term. ovoid, stalked—Lower tooth of calyx very long—Fl. cm. colour.

\* \* *Annual*.

\*4. Heads term. ovoid, at length cylind.—Cal. teeth shorter than corolla—Stip. ov. blunt—Hairs of stem patent—Fl. scarlet crimson.

*b. Fl. white, or pinkish white.*

5. St. erect—Head term. conical—Fl. nearly white—St. with adpressed hairs.

\*6. St. proc.—Head term. stalked—Cal. hairy, its teeth long in fruit, spreading like a star.

7. St. branched, sub-erect—Heads nearly cyl., softly hairy—Cal. teeth subu. setac. longer than cor., plumose.

*b. Stem rigid, erect, lfts. narrow—Less hairy.*

*c. Stem weak, prostr.—Heads globose—St. and ls. freely hairy.*

8. St. rigid, sub-erect—Heads ovoid-glob.—Cal. teeth ciliate, at first subu. erect, after broad leaf-like acute spreading, rigid—Stip. subu. very long.

9. St. erect—Head obl. ov. sess. term. and axill., usually in pairs—Cal. teeth erect as long as cor.—Stip. obl. with long subu. point.

10. St. proc.—Heads ov. sess. term. and axill.—Cal. teeth lanc. with 1 prom. vein—Cal. cyl. in fr.; its teeth unequal, rigid, recurved.

11. St. proc.—Heads ov. or obl. sess. term. and axill.—Cal. teeth subu.—Cal. tube ventricose in fr., its teeth less rigid and not recurved.

*b. Stem erect—Head shortly stalked.*

12. St. proc.—Ped. at first erect, after flowering curving down and burying its fruit in the ground—Heads 2-5 fld.—Stalked in fr.

\* \* \* *Throat of calyx naked—Fls. pink or white.*

13. Perennial—St. creeping—Head long stalked axillary, globose—Invol. multifi. equalling cal.—Stip. ov. with long point—Cal. enlarging after fl. and enclosing pods.

\*14. Head hemisph., at length glob.—Fl. small, reversed in position.

ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.                                       | Common Name.               | Soil or Situation.             | Colour.                | Growth.   | Duration and time of flowering. |
|---|----------------------------|--------------------------------|------------------------|-----------|---------------------------------|
| <b>Gen. IX. Trifolium L.</b><br>( <i>continued</i> ). |                            |                                |                        |           |                                 |
| 15. <i>T. strictum</i> L. . .                         | <i>Upright T.</i> . .      | Grassy pl.<br>V. R.            | Ro.                    | 2-6 in.   | A. 6-7                          |
| *16. <i>T. hybridum</i> L. . .                        | <i>Alsike C.</i> . .       | Waysides .                     | Pk.<br>or<br>w.<br>Pk. | 4-24 in.  | P. 6-9                          |
| 17. <i>T. repens</i> L. . . .                         | <i>Dutch C.</i> . . .      | Past. etc. . .                 | W.<br>or<br>pk.<br>W.  | 3-18 in.  | P. 5-9                          |
| <i>b. rubescens</i> Ser.                              |                            |                                |                        |           |                                 |
| 18. <i>T. glomeratum</i> L. .                         | <i>Sm. round-headed T.</i> | Dry pl. E. and<br>S. of E. L.  | Ro.                    | 2-15 in.  | A. 5-6                          |
| 19. <i>T. suffocatum</i> L. .                         | <i>Suffocated T.</i> .     | San. sh. E. and<br>S. of E. R. | W.                     | 1-3 in.   | A. 5-6                          |
| * * * *   |                            |                                |                        |           |                                 |
| *20. <i>T. agrarium</i> L. . .                        | <i>Lge. Hop T.</i> . .     | Cult. gr. . .                  | Y.                     | 4-12 in.  | A. 6-9                          |
| 21. <i>T. procumbens</i> L. .                         | <i>Hop T.</i> . . . .      | Past. . . . .                  | Y.                     | 6-18 in.  | A. 6-9                          |
| <i>b. majus</i> Koch . . .                            |                            |                                | Y.                     |           |                                 |
| 22. <i>T. dubium</i> Sibth. .                         | <i>Sm. Yell. T.</i> . .    | Past. . . . .                  | Y.                     | 6-18 in.  | A. 6-8                          |
| <i>b. pygmaeum</i> Soy-Will.                          | . . . . .                  | . . . . .                      | Y.                     | . . .     | . . .                           |
| 23. <i>T. filiforme</i> L. . .                        | <i>Least Yell. T.</i> .    | Heaths etc. L.                 | Y.                     | 2-9 in.   | A. 6-7                          |
| <b>Gen. X. Anthyllis L.</b>                           |                            |                                |                        |           |                                 |
| 1. <i>A. Vulneraria</i> L. . .                        | <i>Lady's Fingers</i>      | Dry past. etc.                 | p Y.                   | 4-16 in.  | P. 6-8                          |
| <i>b. coccinea</i> L. . . .                           | . . . . .                  | Marit. sands                   | Pk.                    | 3-9 in.   | P. 6-8                          |
| <i>c. bicolor</i> (Rouy and Fouc.)                    | . . . . .                  | Dry pl. chiefly on co.         | Y.<br>and<br>R.        | 3-9 in.   | P. 6-8                          |
| <i>d. Allionii</i> DC. . . .                          | . . . . .                  | . . . . .                      | . . .                  | . . .     | . . .                           |
| <i>e. ochroleuca</i> (Corb.)                          | . . . . .                  | Sea cliffs . . .               | p Y.                   | 6-15 in.  | P. 6-8                          |
| <i>f. maritima</i> Koch . .                           | . . . . .                  | Sea coast. R.                  | Y.                     | 12-18 in. | P. 6-8                          |
| <b>Gen. XI. Lotus L.</b>                              |                            |                                |                        |           |                                 |
|   | <i>Bird's Foot Trefoil</i> |                                |                        |           |                                 |
| 1. <i>L. uliginosus</i> Schk. .                       | <i>Marsh B.</i> . . .      | Marshy pl. .                   | Y.                     | 6-24 in.  | P. 7-9                          |
| <i>b. glaber</i> Bréb. . . .                          |                            |                                |                        |           |                                 |
| 2. <i>L. corniculatus</i> L. .                        | <i>Bird's Foot T.</i>      | Past. etc. . .                 | Y.                     | 4-18 in.  | P. 7-9                          |
| <i>b. crassifolius</i> Pers.                          | . . . . .                  | Marit. sands                   | . .                    | 4-8 in.   | . . .                           |
| <i>c. incanus</i> Gray . . .                          | . . . . .                  | . . . . .                      | . .                    | . . .     | . . .                           |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Trifolium* (*continued*).

15. St. erect or ascending—Heads glob. sess. term. and axill.—Ls. obl. lanc.—Pedun. longer than ls.—Lizard, Jersey.
- \*16. Perennial—St. erect or ascend., branches wavy—Head glob. depressed—Pods often only 2 seeded.
17. Perennial—St. prost. creeping—Head glob. axill.—Fl. stalked, at length deflexed.
- b. Flowers lilac-purple—Scilly Isles (Townsendii Bab.).*
18. St. procumb.—Head glob. sess. term. and axill.—Cal. sess. 10 veined, teeth ov. acute.
19. St. short, buried in sand—Pl. in dense circ. tufts—Cal. teeth lanc. recurved, longer than cor.—Ca<sup>l</sup>. membran. hairy, scarcely striate.  
\* \* \* \* *Yellow flowers—Throat of calyx naked.*
- \*20. St. erect—Heads oval dense, of about 50 fl.—Standard dilated—Lfts. narrow obov., the cent. petiole not longer than lat.—Sty. as long as fr.—Cult. gr. chiefly in Scotland.
21. Prim. st. erect, branches erect or ascend.—Heads oval dense, about 30-40 flowers—Stand. dilated and deflexed in front—Style much shorter than ped.—Central petiole longest.  
*b. Heads large, of about 40 bright cold. flowers.*
22. St. wiry ascend. or prost.—Heads close, about 12 flowered—Standard folded truncate—Lfts. obcord., middle one stalked—Pale yellow.  
*b. Prostrate—Heads of 4-9 fl.*
23. St. prost. very slender—Head 2-7 fl. in lax. rac., pedicels as long as cal. tube—Standard deeply notched—Lfts. sessile—Fl. darker yellow.

Gen. X. *Anthyllis*.

1. St. ascend.—Ls. pinn., lfts. unequal—Fl. capitate—Pl. silky.  
*b. Fls. pink with red tips—West coast—Local.*  
*c. Fls. yellow or orange with red tips.*

*d. St. with spreading hairs.*

*e. Fls. white, or pale yellow, tips slightly darker, stems as in f.*

*f. St. covd. with adpressed hairs, tall, erect, branched, with many flowering heads.*

Gen. XI. *Lotus*.

1. St. erect—Ls. ob.-ov.—Cal. teeth spreading in bud, two upper diverging—Claw of standard linear—Pl. hairy.  
*b. Plant glabrescent.*
2. St. decumb.—Ls. obov. glab.—Cal. teeth erect in bud, two upper converging—Claw of stand. ob.-ov.—Plant very variable.  
*b. Ls. small, fleshy.*  
*c. Ls. more or less covered with spreading hairs.*

ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.  | Common Name.                                | Soil<br>or<br>Situation.                  | Colour.          | Growth.     | Duration<br>and<br>time of<br>flowering. |
|--|---|---|------------------|-------------|--|
| <b>Gen. XI. Lotus L.</b><br>( <i>continued</i> ).                    |   |   |                  |             |  |
| 3. L. tenuis <i>W. and K.</i>  | <i>Narrow-leaved B.</i>                     | W. pl. etc. .                             | Y.               | 12-24 in.   | P. 7-9                                   |
| 4. L. hispidus <i>Desf.</i> .  | <i>Hispid B.</i> . .                        | Sunny pl. V. R.<br>S. E. and Ch.<br>Isles | Y.               | 2-12 in.    | A. 6-8                                   |
| 5. L. angustissimus <i>L.</i>  | <i>Slender B.</i> . .                       | . . . .                                   | Y.               | 2-8 in.     | A. 6-8                                   |
| <b>Gen. XII. Astragalus L.</b>                                       |   |   |                  |             |  |
| 1. A. glycyphyllos <i>L.</i> .                                       | <i>Milk Vetch</i><br><i>Wild Licorice</i> . | Thick. calc. gr.                          | p Y.             | 2-3 ft.     | P. 6-9                                   |
| 2. A. alpinus <i>L.</i> . . .  | <i>Alpine M. V.</i> .                       | Sc. mt. V. R.                             | W.<br>and<br>Pu. | 2-5 in.     | P. 6-7                                   |
| 3. A. danicus <i>Retz.</i> .<br>( <i>hypoglottis</i> )               | <i>Purple M. V.</i> .                       | Dry sunny<br>past. L.                     | Pu.              | 2-9 in.     | P. 6-8                                   |
| <b>Gen. XIII. Oxytropis</b><br><i>DC.</i>                            |   |   |                  |             |  |
| 1. O. uralensis <i>DC.</i> .   | <i>Purple Oxytropis</i>                     | Bare pl. on Sc.<br>mt. and co. L.         | Pu.              | 4-9 in.     | P. 6-7                                   |
| 2. O. campestris <i>DC.</i> .  | <i>Yellow</i> ,,                            | Sc. mt. cliffs<br>V. R.                   | Y.               | 4-9 in.     | P. 7-8                                   |
| <b>*Gen. XIV. Coronilla L.</b>                                       |   |   |                  |             |  |
| *1. C. varia <i>L.</i> . . .   | . . . .                                     | Wo., plants.,<br>and w. pl. R.            | Pu.<br>or<br>W.  | 1-3 ft.     | P. 7-8                                   |
| <b>Gen. XV. Ornithopus L.</b>  |   |   |                  |             |  |
| 1. O. perpusillus <i>L.</i> .  | <i>Bird's Foot</i> . .                      | Dry pl. . .                               | p R.             | 4-18 in.    | A. 5-8                                   |
| 2. O. pinnatus <i>Druce</i> .<br>( <i>Arthrolobium ebracteatum</i> ) | <i>Jointed B.</i> . .                       | Dry pl. Scilly<br>and Ch. Isles           | Y.               | 4-18 in.    | A. 5-8                                   |
| <b>Gen. XVI. Hippocrepis</b><br><i>L.</i>                            |   |   |                  |             |  |
| 1. H. comosa <i>L.</i> . .   | <i>Horse-shoe Vetch</i>                     | Calc. past. & pl.                         | Y.               | 6-18 in.    | P. 5-8                                   |
| <b>Gen. XVII. Onobrychis</b><br><i>Hill</i>                          |   |   |                  |             |  |
| 1. O. viciæfolia <i>Scop.</i><br>( <i>sativa</i> )                   | <i>Sainfoin</i> . . .                       | Calc. past. &<br>w. pl.                   | Ro.              | 1-2 ft.     | P. 6-7                                   |
| <b>Gen. XVIII. Vicia L.</b><br>*                                     |   |   |                  |             |  |
| 1. V. sylvatica <i>L.</i> . .  | <i>Vetch, Tare.</i><br><i>Wood Vetch</i> .  | Woods and<br>cliffs, etc. L.              | W.               | Cl. 2-6 ft. | 6-8                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XI. Lotus** (*continued*).

3. St. decumb. or ascend. filiform—Lfts. lin. lanc., fl. fewer and smaller than 2.
4. Procumb. laxly villous, pedunc. longer than ls., 3-4 fld., pod rugose terete, twice as long as cal.
5. Procumb. less hairy, darker gr., pedunc. shorter than ls., 1-2 fld., pod lin. straight—Pod 6 times as long as cal.

**Gen. XII. Astragalus.**

1. St. zigzag, glab.—Ls. (4-6 in.) longer than pedunc.—Fl. yell. white—Pod ( $1\frac{1}{2}$  in.) lin.
2. St. slender, decumb. hairy—Ls. as long as pedunc.—Fl. white, tipped with purple—Pod ( $\frac{1}{3}$  in.) obl. with black hairs—Aberd., Perth, and Forf.
3. St. slender, ascend. hairy—Ls. shorter than pedunc.—Fl. purple—Pod  $\frac{3}{8}$  in., short ov. hairy.

**Gen. XIII. Oxytropis.**

1. Stemless—Ls. shorter than pedunc. silky—Fl. purple—Chiefly on North Scottish coast.
2. St. short prostrate—Ls. equall. pedunc. softly hairy—Fl. pale yell. tinged with purple—Mt. cliffs, Forfar, and Perth.

**Gen. XIV. Coronilla.**

- \*1. Stem herbaceous, prost. branched, ascend.—Ls. 9-15; lfts. ov.-obl. mucro.—Fl. umbell. 10-15 white, tinged with violet or rose, on long pedunc.—Alien.

**Gen. XV. Ornithopus.**

1. St. prost.—Ls. pinn. lfts. ellip. downy—Fl. umbellate with pinn. ls. at apex of pedunc.—Fl. white, veined crims.
2. St. prost.—Ls. pinn. lfts. ellip.-obl. glauc.—Fl. without ls. at apex of pedunc.—Fl. yell. veined crims.—Scilly and Ch. Isles.

**Gen. XVI. Hippocrepis.**

1. St. prost. glab.—Ls. pinn.; lfts. ob. ov. ellip.—Fl. umbell. dark yellow.

**Gen. XVII. Onobrychis.**

1. St. erect, stout—Lfts. ellip. obl., mucro.—Fl. in dense raceme.

**Gen. XVIII. Vicia.**

\* *Calyx gibbous at base.*

1. St. climbing—Lft. ell.-obl. glab.—Tendrils much branched, lower sti. lunate, toothed—Fl. white with blue veins.



ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.                                      | Common Name.                 | Soil<br>or<br>Situation.      | Colour.                              | Growth.              | Duration<br>and<br>time of<br>flowering. |
|--|------------------------------|-------------------------------|--------------------------------------|----------------------|--|
| <b>Gen. XVIII. Vicia L.</b><br>( <i>continued</i> ). |                              |                               |                                      |                      |  |
| *2. <i>V. tenuitolia</i> Roth. . . . .               | . . . . .                    | W. pl. Alien.                 | B.                                   | 2-4 ft.              | 6-7                                      |
| 3. <i>V. Cracca</i> L. . . . .                       | <i>Tufted V.</i> . . . .     | Hedges . . . .                | B.                                   | Cl. 2-6 ft.          | 6-8                                      |
| <i>b. incana</i> (Thuill.)                           |                              |                               |                                      |                      |  |
| 4. <i>V. Orobus</i> DC. . . . .                      | <i>Wood Bitter V.</i>        | Roc. pl. R. . . .             | <i>pu.</i><br>or<br><i>pk.</i><br>W. | 1-2 ft.              | 5-6                                      |
| *5. <i>V. villosa</i> Roth. . . . .                  | <i>Villous V.</i> . . . .    | W. pl. Alien.                 | Pu.                                  | 1-3 ft.              | 6-8                                      |
| 6. <i>V. bithynica</i> L. . . . .                    | <i>Bithynian V.</i> . . . .  | Bushy pl. w. pl.              | <i>p</i> P.                          | 1-2 ft.              | 7-8                                      |
| <i>b. angustifolia</i> Syme                          |                              |                               |                                      |                      |  |
| 7. <i>V. sepium</i> L. . . . .                       | <i>Hedge V.</i> . . . .      | Hedges . . . .                | <i>p.</i><br>Pu.                     | $\frac{1}{2}$ -3 ft. | 5-8                                      |
| <i>b. ochroleuca</i> Bast.                           |                              |                               |                                      |                      |  |
| 8. <i>V. lutea</i> L. . . . .                        | <i>Yellow V.</i> . . . .     | Sea coast . . . .             | Y.                                   | 6-18 in.             | 6-8                                      |
| *9. <i>V. hybrida</i> L. . . . .                     | <i>Hairy Yel. V.</i> . . . . | W. pl. cult.<br>gr. R.        | Y.                                   | 6-24 in.             | A. 6-8                                   |
| [10. <i>V. laevigata</i> Sm. . . . .                 | <i>Smooth V.</i> . . . .     | Weymouth,<br>now lost         | B.<br>or<br><i>zw</i> B.             | 6-15 in.             | A. 6-7                                   |
| *11. <i>V. sativa</i> L. . . . .                     | <i>Vetches</i> . . . . .     | Waysides, w.<br>pl.           | <i>p.</i><br>Pu.                     | 6-18 in.             | A. 5-7                                   |
| 12. <i>V. angustifolia</i> L. . . . .                | <i>Narrow-leaved V.</i>      | Dry pl. . . . .               | R.                                   | 6-12 in.             | A. 4-7                                   |
| <i>b. segetalis</i> Koch . . . . .                   | . . . . .                    | Dry pl. . . . .               | R.                                   | 6-18 in.             | 5-7                                      |
| <i>c. Garlandii</i> Druce . . . . .                  | . . . . .                    | Co. of Jersey                 | Ro.                                  | 6-18 in.             | 6-7                                      |
| * * *  |                              |                               |                                      |                      |  |
| 13. <i>V. Lathyroides</i> L. . . . .                 | <i>Spring V.</i> . . . .     | Dry past. and<br>grav. pl. L. | Pu.                                  | 3-8 in.              | A. 4-6                                   |
| 14. <i>V. hirsuta</i> Gray . . . . .                 | <i>Hairy Tare</i> . . . .    | W. pl. . . . .                | <i>p</i> B.                          | 1-2 ft.              | A. 6-8                                   |
| <i>b. angustifolia</i>                               | . . . . .                    | . . . . .                     | . . . . .                            | . . . . .            | . . . . .                                |
| Druce  |                              |                               |                                      |                      |  |
| 15. <i>V. tetrasperma</i>                            | <i>Smooth Tare</i> . . . .   | W. bushy pl.                  | <i>p</i> B.                          | 1-2 ft.              | A. 6-8                                   |
| Moench   |                              |                               |                                      |                      |  |
| <i>b. tenuissima</i> Druce                           |                              |                               |                                      |                      |  |
| 16. <i>V. gracilis</i> Lois. . . . .                 | <i>Slender Tare</i> . . . .  | W. pl. R. . . .               | <i>p</i> B.                          | 1-3 ft.              | A. 6-8                                   |
| <b>Gen. XIX. Lathyrus L.</b>                         |                              |                               |                                      |                      |  |
| * <i>Pea</i>   |                              |                               |                                      |                      |  |
| *1. <i>L. latifolius</i> L. . . . .                  | <i>Everlasting Pea</i>       | W. pl. R. . . .               | <i>pu.</i><br>Ro.                    | 3-6 ft.              | P. 6-8                                   |
| 2. <i>L. sylvestris</i> L. . . . .                   | <i>Wild Pea</i> . . . .      | Wo. & thick.<br>Sea cliffs    | Pu.                                  | 3-6 ft.              | P. 6-8                                   |
| *3. <i>L. tuberosus</i> L. . . . .                   | <i>Tuberous P.</i> . . . .   | Corn fie. R. . .              | Cr.                                  | 2-4 ft.              | P. 6-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XVIII. *Vicia* (*continued*).

- \*2. St. climbing—Lft. lin. acute—Spike long, fl. blue var. with wh.—Limb of standard long—Tendr. branched—Pod lin. obl.
- 3. St. climbing—Ls. lanc. or lin. lanc. hairy, tendr. branched—Stip. semi-sagitt. nearly ent.—Limb of stand. short—Fl. blue or purplish—Pod lin. obl.  
*b. Lfts. covered with whitish pubescence.*
- 4. St. erect, stout—Tendr. o.—Lft. ov.-obl. acute, hairy—Stip. semi-sagitt. slightly toothed—Fl. white, tinged with purple, or rose-purple.
- \*5. St. decumb.—Lfts. lanc. with patent villous hairs—Pod broadly rhomb. ellip.—Standard limb long.
- 6. St. climb.—Lft. 1-2 pair, lanc.—Tendr. branched—Cal. equal at base—Pod rough.  
*b. Lfts. lin. lanc.*
- 7. St. climb.—Fl. in sessile rac.—Pod erect, glab.—Cal. teeth unequal.  
*b. Fl. creamy white.*
- 8. St. tufted, prostr.—Lft. ell.-lanc.—Fl. sol. sess.—Cal. teeth unequal—Standard glab.—Pod reflexed, hairy—Fl. yell.
- \*9. St. not tufted, prost.—Lft. oval—Standard and pod hairy—Fl. yell.
- 10. Pl. glab.—Cal. teeth unequal—Pods glab.—Fl. pale blue or white—Formerly at Weymouth.]
- \*11. Lft. ellip. or ov.-obl.—Fl. usually in pairs, sess.—Pod mostly parallel to stem (2-3 in.)—Seeds  $\frac{1}{4}$  in.
- 12. Lfts. lin. acute or obtuse—Fl. often sol.—Pod. mostly patent (1-2 in.) not splitting calyx.  
*b. Lfts. obl.—Flowers in pairs—Pod splitting cal.—Seeds  $\frac{1}{3}$  inch.*  
*c. St. erect—Fl. large bright rose—Jersey.*  
*\* \* Calyx not gibbous at base.*
- 13. St. spread, hairy—Lfts. 2-3 pair retuse—Tendr. simple or o.—Pod. glab.—Seeds tuberculed.
- 14. Lfts. 6-8 pair, lin. lanc. obt. muc.—Pedunc. 1-6 flowered—Pod 2 seeded, hairy.  
*b. Lfts. lin., less obt.*
- 15. Lfts. 3-6 pair, lin. lanc. obt. muc. 1-2 fl.—Pod 4 seeded, glab.—Pedunc. as long as ls.  
*b. Lfts. long, narrow, acute.*
- 16. Lfts. 3-4 pairs, long, narrow acuminate—Pedunc. longer than ls.—Pod 5-8 seeded, glab.

Gen. XIX. *Lathyrus*.

- \*1. St. climb. winged—Ls. large ellip. glauc.—Stip. broad—Hilum  $\frac{1}{3}$  encircling seed—Alien.  
*\* Lfts. one pair.*
- 2. St. climb. winged—Ls. large ensi.—Ped. many flowered—Stip. large sagitt.—Hilum  $\frac{1}{2}$  enc. seed.
- \*3. St. angled—Lfts. ob. ov.—Ped. 2-5 fld., very long—Stip. large semi-sagitt.—Pod glab.—Roots tuberous.

ORD. XXV.—LEGUMINOSÆ (*continued*).

| Botanical Name.  | Common Name.                       | Soil<br>or<br>Situation.       | Colour.   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|------------------------------------|--------------------------------|-----------|----------|--|
| <b>Gen. XIX. Lathyrus L.</b><br>( <i>continued</i> ).<br>* * *   |                                    |                                |           |          |  |
| 4. <i>L. maritimus</i> Big. . . . .<br><i>b. acutifolius</i> Bab.  | <i>Sea P.</i> . . . . .            | Sea shingle.L.                 | Pu.       | 1-2 ft.  | P. 7-8                                   |
| 5. <i>L. palustris</i> L. . . . .  | <i>Marsh P.</i> . . . . .          | Fens and<br>marshes. L.        | Pu.       | 1-4 ft.  | P. 6-8                                   |
| 6. <i>L. pratensis</i> L. . . . .  | <i>Yellow Meadow<br/>Vetchling</i> | Hedges,<br>meadows, etc.       | Y.        | 1-3 ft.  | P. 6-9                                   |
| *7. <i>L. hirsutus</i> L. . . . .  | <i>Hairy Vetchling</i>             | Cult. gr. R. . .               | Pu.       | 2-3 ft.  | A. 6-7                                   |
| * * *  |                                    |                                |           |          |  |
| 8. <i>L. Nissolia</i> L. . . . .   | <i>Cr. Vetchling</i> . . . . .     | Grav. pl. . . .                | Cr.       | 1-2 ft.  | A. 5-6                                   |
| 9. <i>L. Aphaca</i> L. . . . .<br>* * * *  | <i>Yellow V.</i> . . . . .         | Fi. & w. pl. R.                | Y.        | 1-3 ft.  | A. 6-7                                   |
| 10. <i>L. montanus</i> Bernh.<br>( <i>L. macrorrhizus</i><br><i>Wimm.</i> )<br><i>b. tenuifolius</i> Druce | <i>Tuberous Bitter<br/>Vetch</i>   | Woods and<br>bushy pl.         | g.<br>Pu. | 6-15 in. | P. 5-8                                   |
| 11. <i>L. niger</i> L. . . . .   | <i>Black Bitter V.</i>             | Scot. wooded<br>roc. glens. R. | Pu.       | 1-2 ft.  | P. 6-7                                   |

## ORD. XXVI.—ROSACEÆ.

|  |                                 |                        |           |           |         |
|--|---------------------------------|------------------------|-----------|-----------|---------|
| <b>Gen. I. Prunus L.</b>               |                                 |                        |           |           |         |
| 1. <i>P. Padus</i> L. . . . .          | <i>Bird Cherry</i> . . . . .    | Woods in N.<br>Brit.   | W.        | 10-25 ft. | T. 5-6  |
| 2. <i>P. avium</i> L. . . . .          | <i>Gean</i> . . . . .           | Woods . . . .          | W.        | 15-30 ft. | T. 5-6  |
| 3. <i>P. Cerasus</i> L. . . . .        | <i>Cherry</i> . . . . .         | Woods and<br>hedges    | W.        | 10-20 ft. | T. 5-6  |
| *4. <i>P. domestica</i> L. . . . .     | <i>Wild Plum</i> . . . . .      | Hedges . . . .         | W.        | 6-20 ft.  | T. 4-5  |
| 5. <i>P. insititia</i> L. . . . .      | <i>Bullace</i> . . . . .        | Hedges . . . .         | W.        | 6-15 ft.  | T. 4-5  |
| 6. <i>P. spinosa</i> L. . . . .        | <i>Sloe Blackthorn</i>          | Hedges and<br>copses   | W.        | 3-8 ft.   | Sh. 3-4 |
| <i>b. macrocarpa</i><br><i>Wallr.</i>  | . . . . .                       | . . . . .              | . .       | . .       | . .     |
| *7. <i>P. Lauro-Cerasus</i> L. . . . . | . . . . .                       | Plants. . . .          | W.        | 4-9 ft.   | Sh. 5-6 |
| <b>Gen. II. Spiræa L.</b>              |                                 |                        |           |           |         |
| *1. <i>S. salicifolia</i> L. . . . .   | <i>Willow-leaved<br/>Spiræa</i> | Hedges and<br>plants.  | Pk.       | 2-5 ft.   | Sh. 6-7 |
| 2. <i>S. Ulmaria</i> L. . . . .        | <i>Meadow Sweet</i>             | Meadows and<br>dp. pl. | cm.<br>W. | 2-4 ft.   | P. 6-9  |
| <i>b. denudata</i> Boenn.              | . . . . .                       | . . . . .              | . .       | . .       | . .     |



ORD. XXV.—LEGUMINOSÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XIX. *Lathyrus* (*continued*).

\* \* *Lfts. many (except Nos. 6 and 7)—Ls. with tendrils.*

4. St. angled—Lfts. oval, stip. oval, cord. hast., large.  
*b. St. slender, straggling—Lfts. ellip. lanc.—Unst, Shetland.*
5. St. winged—Lfts. lin. lanc., acute—Fl.  $\frac{1}{3}$ – $\frac{3}{4}$  in.—Stip. semi-sagitt., lanc.—Pod glab.
6. St. angled—Lfts. one pair only lanc.—Ped. many fld.—Fl.  $\frac{1}{2}$ – $\frac{3}{4}$  in.—Stip. semi-sagitt. narrow—Pod glab. or hairy.
- \*7. St. winged—Lfts. one pair only, lin.-lanc.—Ped. 2 fld., longer than ls.—Fl.  $\frac{1}{2}$ – $\frac{3}{4}$  in.—Pod hairy.  
 \* \* \* *Lfts. none.*
8. St. erect, very slender—Apparent ls. long, lin. grass-like.
9. St. climb. tendrilled—Stip. large, leaty, cordate.  
 \* \* \* \* *Lft. many, no tendrils = Orobus.*
10. St. winged, simple—Lfts. 2–4 pair, ellip. obl., glab.—Stip. semi-sagitt.—Fl. var. R. and B.  
*b. Lfts. lin.-lanc.*
11. St. angled, branched—Lfts. 3–6 pair, lanc.—Stip. lin. lanc., acute—Fl. var. R. B. and Pu.

## ORD. XXVI.—ROSACEÆ.

Gen. I. *Prunus*.

1. Fl. in pend. rac.—Ls. ob.-ov. doubly serr. glab.—Fr.  $\frac{1}{3}$  in. ovoid, black.
2. Fl. in almost sess. umbels.—Ls. flaccid, drooping, downy beneath—Cal. tube contracted at mouth—Cor. open—Fr. cr. black.
3. Fl. in almost sess. umbels.—Ls. ov.-obl., glab. firm, erect—Cal. tube not contracted at mouth—Cor. more cup-shaped—Fr. red.
- \*4. Branches not spiny, pubescent—Ls. ov. ellip.—Fr. obl. roundish-ov.—Yellow or purple—Alien.
5. Branches not very spiny—Ls. obl. obov.—Fl.  $\frac{3}{4}$  in.—Fr.  $\frac{3}{4}$ –1 in. glob. black or yell.
6. Branches very spiny—Fl. preceding ls.—Ls. ellip.—Fl.  $\frac{1}{2}$ – $\frac{5}{8}$  in.—Fr.  $\frac{1}{2}$  in. black.  
*b. Fl. with ls.—Ls. obov.-obl.—Fr.  $\frac{1}{2}$ – $\frac{5}{8}$  in.*
- \*7. Ls. lgc. ( $6 \times 3\frac{1}{2}$  in.), evergreen, shining above, one gland on each side mid-rib near base on underside—Leaves bruised give scent of bitter almonds.

Gen. II. *Spiræa*.

- \*1. Shrubby—Ls. obl. lanc., serr. glab.—Fl. flesh coloured in dense raceme—Alien.
2. Ls. pinn., covd. with white down below, lft. ovate ent., term. one large, lobed.  
*b. St. ls. green and nearly glab. below.*

ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.  | Common Name.                                | Soil<br>or<br>Situation.                          | Colour.     | Growth.    | Duration<br>and<br>time of<br>flowering. |
|--|---|---|-------------|------------|--|
| <b>Gen. II. Spiræa L.</b><br>( <i>continued</i> ).         |   |   |             |            |  |
| 3. <i>S. Filipendula L.</i> .                              | <i>Dropwort</i> . .                         | Downs and<br>past.                                | cm.<br>W.   | 6in.-2 ft. | P. 6-8                                   |
| <b>Gen. III. Rubus L.</b>                                  |   |   |             |            |  |
| 1. <i>R. idæus L.</i> . . .                                | <i>Raspberry</i> . .                        | Heathy and<br>bushy pl.                           | W.          | 2-5 ft.    | Sh. 6-8                                  |
| <i>b. obtusifolius Willd.</i><br>( <i>R. Leesii Bab.</i> ) | . . . . .                                   | . . . . .   | . .         | . .        | . .                                      |
| 2. <i>R. fruticosus L.</i> <sup>1</sup> .                  | <i>Blackberry</i> . .                       | Hedges,<br>woods, etc.                            | W.<br>or Pk | 3-12 ft.   | Sh. 7-9                                  |
| 3. <i>R. cæsius L.</i> . . .                               | <i>Dewberry</i> . .                         | Dp. pl. . .                                       | W.          | 2-6 ft.    | Sh. 7-9                                  |
| 4. <i>R. saxatilis L.</i> . .                              | <i>Stone Bramble</i> .                      | Roc. wo. and<br>mt. cliffs. L.                    | W.          | 6in.-2 ft. | P. 7-9                                   |
| 5. <i>R. Chamæmorus L.</i>                                 | <i>Cloudberry</i> <i>Avron</i>              | Mt. peat<br>moors                                 | W.          | 6-12 in.   | P. 7-8                                   |
| <b>Gen. IV. Dryas L.</b>                                   |   |   |             |            |  |
| 1. <i>D. octopetala L.</i> .                               | <i>Mt. Avens</i> . .                        | Mts. and N.W.<br>co. of Scot. L.<br>and co. Clare | W.          | 1-4 in.    | P. 6-7                                   |
| <b>Gen. V. Geum L.</b>                                     |   |   |             |            |  |
| 1. <i>G. urbanum L.</i> . .                                | <i>Avens</i><br><i>Wood Avens</i> .         | Hed. and wo.                                      | Y.          | 1-3 ft.    | P. 6-8                                   |
| 2. <i>G. rivale L.</i> . . .                               | <i>Water Avens</i> .                        | Dp. woods .                                       | . .         | 1-2 ft.    | P. 6-7                                   |
| 1 & 2 × <i>intermedium</i><br><i>Ehrh.</i>                 | . . . . .                                   | „ „ .   | . .         | 1-2 ft.    | P. 6-7                                   |
| <b>Gen. VI. Fragaria L.</b>                                |   |   |             |            |  |
| *1. <i>F. moschata Duch.</i> .                             | <i>Strawberry</i><br><i>Hautbois S.</i> . . | Plantations .                                     | W.          | 4-10 in.   | P. 5-7                                   |
| ( <i>F. elatior Ehrh.</i> )                                |   |   |             |            |  |
| 2. <i>F. vesca L.</i> . . .                                | <i>Strawberry</i> . .                       | Woods and<br>hedges                               | W.          | 2-6 in.    | P. 5-7                                   |
| <i>b. bercheriensis</i><br><i>Druce</i>                    | . . . . .                                   | . . . . .   | . .         | 6-10 in.   | . .                                      |
| *3. <i>F. chiloensis Duch.</i>                             | <i>Garden S.</i> . .                        | Wa. pl. (an<br>escape)                            | W.          | 6-10 in.   | P. 5-7                                   |
| <b>Gen. VII. Potentilla L.</b><br>*                        |   |   |             |            |  |
| 1. <i>P. fruticosa L.</i> . .                              | <i>Shrubby Cinque-</i><br><i>foil</i>       | Calc. roc. pl.<br>R.                              | Y.          | 2-4 ft.    | Sh. 6-7                                  |
| 2. <i>P. rupestris L.</i> . .                              | . . . . .                                   | Calc. roc.<br>Wales, V. R.                        | W.          | 1-2 ft.    | P. 5-6                                   |

<sup>1</sup> In the "List of British Plants," 126 "species" of Rubi are enumerated. To pursue the study of this difficult group is referred to the "Handbook of British

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Spiræa* (*continued*).

3. Ls. pinn. (mostly radical), lft. obl. deeply cut, serr. glab., deep green—Fl. yell. white tinged with red externally.

Gen. III. *Rubus*.

1. St. shrubby with suckers, round, very prickly—Ls. pinn., fls. ovate, white beneath.  
*b. Ls. simple, orbicular, or ternate.*

2. St. shrubby without suckers, round or angular, prickly—Lft. usually 3—Fr. black or reddish, without bloom.  
 3. St. shrubby, slender prostr. glaucous—Fr. with larger drupes covered with bloom.  
 4. St. herbaceous, stip. ov. or lanc.—Ls. with 3 lfts.—Fl. sm.  $\frac{1}{2}$  in. axillary—Fr. claret colour.  
 5. St. herbaceous—Ls. undivided—Fl. lge.  $\frac{3}{4}$ – $1\frac{1}{4}$  in. term. solitary—Fr. yellow.

Gen. IV. *Dryas*.

1. St. proc.—Ls. simp. obl. serr. glossy gr. above, white below—Pet. 8—Fl. 1 in.—Calc. soil.

Gen. V. *Geum*.

1. Fl. erect,  $\frac{1}{2}$ – $\frac{3}{4}$  in. yellow—Pet. obov.—Head of fr. sess., upper joint of awn, short glab.  
 2. Fl. drooping, 1– $1\frac{1}{2}$  in. purplish-brown, pet. emarginate—Head of fr. stalked, upper joint of awn long hairy.  
*× A hybrid—Fl. erect or drooping, larger than 1—Paler and more yellowish fl. than 2.*

Gen. VI. *Fragaria*.

- \*1. Fr. cal. patent or reflexed—Hairs on ped. and pedicel spreading and deflexed—Pet.  $\frac{1}{3}$  broader than long—Fl.  $\frac{1}{2}$ – $\frac{2}{3}$  in.—Alien.  
 2. Fr. cal. as 1—Hairs on ped. and pedicels adpressed—Ls. bright gr.—Pet. about as long as broad—Fl.  $\frac{1}{2}$ – $\frac{3}{4}$  in.  
*b. Larger than 2—Ls. whitish below and darker above, lfts. large, teeth more open.*  
 \*3. Fr. cal. erect—Ls. dk. gr. above, white below—Fl. lge. 1– $1\frac{3}{4}$  in.—Alien.

Gen. VII. *Potentilla*.

\* *Ls. pinnate.*

1. St. shrubby—Lft. 5 ent. margin revolute silky—Fl. yell. 1– $1\frac{1}{2}$  in.  
 2. St. erect, dichot.—Lft. cuneate, serr.—Hairy—Fl. white  $\frac{3}{4}$ –1 in.



ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.  | Common Name.                          | Soil<br>or<br>Situation.    | Colour.    | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|---------------------------------------|-----------------------------|------------|-----------|--|
| <b>Gen. VII. <i>Potentilla</i> L.</b><br>( <i>continued</i> ). |                                       |                             |            |           |  |
| 3. <i>P. Anserina</i> L. . . .                                 | <i>Silver Weed</i> . . . .            | Waysides,<br>coast, etc.    | Y.         | 3-12 in.  | P. 6-3                                   |
| <i>b. nuda</i> Gray . . . .                                    | . . . . .                             | . . . . .                   | . . . . .  | . . . . . | . . . . .                                |
| * *  |                                       |                             |            |           |  |
| 4. <i>P. argentea</i> L. . . .                                 | <i>Hoary Cinque-<br/>foil</i>         | Gravelly past.<br>etc.      | Y.         | 4-18 in.  | P. 6-8                                   |
| 5. <i>P. Crantzii</i> Beck. . . .                              | <i>Alpine C.</i> . . . .              | Alp. past. and<br>roc. R.   | Y.         | 4-10 in.  | P. 5-7                                   |
| ( <i>P. alpestris</i> Hall.)                                   |                                       |                             |            |           |  |
| <i>b. debilis</i> Druce . . . .                                | . . . . .                             | . . . . .                   | . . . . .  | . . . . . | . . . . .                                |
| 6. <i>P. verna</i> L. . . . .                                  | <i>Spring C.</i> . . . .              | Hilly past. L.              | Y.         | 3-6 in.   | P. 4-6                                   |
| 7. <i>P. reptans</i> L. . . . .                                | <i>Creeping C.</i> . . . .            | Waysides . . . .            | Y.         | 6-18 in.  | P. 6-9                                   |
| <i>b. microphylla</i> Tratt.                                   | . . . . .                             | Dry ground . . . .          | . . . . .  | 3-4 in.   | . . . . .                                |
| 8. <i>P. procumbens</i> Sibth.                                 | <i>Creeping Tor-<br/>mentilla</i>     | Woods and<br>heaths         | Y.         | 6-15 in.  | P. 6-9                                   |
| 9. <i>P. erecta</i> Hampe . . . .                              | <i>Tormentilla</i> . . . .            | Heaths . . . .              | Y.         | 6-10 in.  | P. 6-9                                   |
| ( <i>P. Tormentilla</i> Neck.)                                 |                                       |                             |            |           |  |
| (Several hybrids of 7, 8, 9 have been found in Britain.)       |                                       |                             |            |           |  |
| * * *  |                                       |                             |            |           |  |
| 10. <i>P. sterilis</i> Garcke . . . .                          | <i>Barren Straw-<br/>berry</i>        | Woods and<br>banks          | W.         | 2-6 in.   | P. 3-5                                   |
| ( <i>P. Fragariastrum</i> )                                    |                                       |                             |            |           |  |
| <i>Ehrh.</i> )   |                                       |                             |            |           |  |
| * 11. <i>P. norvegica</i> L. . . .                             | <i>Norwegian<br/>Potentilla</i>       | Wa. pl., Riv.<br>side, etc. | Y.         | 6-12 in.  | A. 7-8                                   |
| * * * *  |                                       |                             |            |           |  |
| 12. <i>P. Sibbaldi</i> Hall. f. . . .                          | <i>Sibbaldia</i> . . . .              | Scot. mts. . . .            | Y.         | 2-6 in.   | P. 7-8                                   |
| * * * * *  |                                       |                             |            |           |  |
| 13. <i>P. palustris</i> L. . . .                               | <i>Marsh C.</i> . . . .               | Bogs . . . .                | dk.<br>Pu. | 6in.-2ft. | P. 5-7                                   |
| <i>b. villosa</i> (Lehm.) . . . .                              | . . . . .                             | . . . . .                   | . . . . .  | . . . . . | . . . . .                                |
| <b>Gen. VIII. <i>Alchemilla</i> L.</b>                         |                                       |                             |            |           |  |
| 1. <i>A. vulgaris</i> L. . . .                                 | <i>Lady's Mantle<br/>Common L. M.</i> | Past., etc. . . .           | yG.        | 6-18 in.  | P. 6-9                                   |
| <i>b. glabra</i> DC. . . . .                                   | . . . . .                             | Mt. past., etc.             | . . . . .  | 6-18 in.  | . . . . .                                |
| <i>c. minor</i> Huds. . . . .                                  | . . . . .                             | Woods and<br>past.          | . . . . .  | 4-12 in.  | . . . . .                                |
| 2. <i>A. alpina</i> L. . . . .                                 | . . . . .                             | Mt. of N. B.                | yG.        | 3-9 in.   | P. 6-8                                   |
| <i>b. argentea</i> (Don) . . . .                               | . . . . .                             | Mt. V. R. . . . .           | . . . . .  | . . . . . | . . . . .                                |
| 3. <i>A. arvensis</i> Scop. . . .                              | <i>Parsley Piert</i> . . . .          | Fields, etc. . . .          | yG.        | 2-8 in.   | A. 5-8                                   |
| <b>Gen. IX. <i>Agrimonia</i> L.</b>                            |                                       |                             |            |           |  |
| 1. <i>A. Eupatoria</i> L. . . .                                | <i>Agrimony</i> . . . .               | Banks . . . .               | Y.         | 1½-2 ft.  | P. 6-7                                   |
| <i>b. odorata</i> (Mill.) . . . .                              | <i>Fragrant A.</i> . . . .            | Banks. R. . . .             | Y.         | 1½-4 ft.  | P. 6-7                                   |
| <i>c. sepium</i> Bréb. . . . .                                 | . . . . .                             | . . . . .                   | . . . . .  | . . . . . | . . . . .                                |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. VII. *Potentilla* (*continued*).

3. St. prostr. stolonif.—Lft. deeply serr., silky beneath—Fl. sol. yell.  $\frac{1}{4}$ – $\frac{3}{4}$  in.  
*b. Ls. green above and below.*  
*\* \* Ls. digitate—Fl. yellow.*
4. St. erect or decumb.—Ls. quin. with cuneate lfts., much cut, white tomentose beneath—Fl.  $\frac{1}{3}$ – $\frac{1}{2}$  in.
5. St. ascend. woody—Rad. ls. quin.; lft. ob.-ov., green below—Fl.  $\frac{3}{4}$ –1 in., with dk. orange spot at base of pet.  
*b. Petals unspotted.*
6. St. prost. woody, tufted—Rad. ls. quin., lft. truncate—Fl. yell.  $\frac{1}{2}$ – $\frac{5}{8}$  in.
7. St. prost. fili. rooting—Ls. quin., long stalked—Fl. sol. 1 in.—Pet. 5—Ach. gran.  
*b. A small tufted plant, with short runners.*
8. St. procumb., rooting at joints—Ls. tern. stalked—St. ls. 3–5 foliate—Fl. sol.  $\frac{3}{4}$  in.—Pet. 4–5.
9. St. erect, or proc., not rooting at joint—Ls. alt. sess. 3 fol.—Fl.  $\frac{1}{2}$  in. cymose—Pet. 4.

\* \* \* *Ls. ternate.*

10. Flowers white—St. proc.—Lft. hairy, serrate, silky on both sides.

- \*11. St. erect, lft. ob.-lanc., coarsely toothed, 1–2 in. long—Fl. ( $\frac{1}{2}$  in.) in crowded term. cymes.

\* \* \* \* *Sibbaldia L. = Sibbaldia procumbens.*

12. St. woody—Ls. 3 fol., lft. ob. trunc., tip 3–6 toothed—Fl.  $\frac{1}{4}$  in.—Pet. small or o., or 5–7—St. 4–10.

\* \* \* \* \* *Comarum L. C. palustre L.*

13. St. ascend. purp. br.—Ls. pinn.; lft. ( $1\frac{1}{2}$ –2 in.) lanc. serr. sparingly hairy—Fl. 1–1 $\frac{1}{2}$  in.—Dark purple.

*b. Lfts. covd. with grey pubescence.*VIII. *Alchemilla*.

1. Ls. reni. ent. plaited, lobed—Fl. in lax, term. clusters—St. and ls. petiole, hairy.

*b. Plant glabrous.**c. Plant smaller, stem and petioles clothed with patent hairs.*

2. Ls. digitate, serr. white silky beneath—Fl. in interr. spikes.

*b. Lft. joined to  $\frac{1}{3}$  length, larger—L. appearing pelt.—Perhaps a hybrid of 1 and 2.*

3. Ls. trifid, lobes cut pubescent—Fl. sess. axill.—Pl. small—St. very short.

IX. *Agrimonia*.

1. St. ls. pinn.; lfts. deeply serr.—Tube of cal. obconic, deeply furrowed in fr., spines patent—Rac. spicate, elongate, many fl.

*b. Tube of cal. bell-shaped, furrows obscure—Spines recurved—Plant very aromatic.**c. Habit of var. b, but spines not recurved—Pl. less glandular.*

ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.   | Common Name.           | Soil<br>or<br>Situation. | Colour.         | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|------------------------|--------------------------|-----------------|----------|--|
| <b>Gen. IX. Agrimonia</b><br>( <i>continued</i> ).                                  |                        |                          |                 |          |  |
| * <sub>2</sub> . <i>A. Agrimonoides</i> L.  | . . . .                | Woods. V. R.             | Y.              | 9-15 in. | P. 7-8                                   |
| <b>Gen. X. Poterium</b> L.  |                        |                          |                 |          |  |
| <sub>1</sub> . <i>P. Sanguisorba</i> L. .   | <i>Lesser Burnet</i> . | Calc. soil . .           | Pu.             | 6-18 in. | P. 6-8                                   |
| * <sub>2</sub> . <i>P. polygamum</i> W.<br>& K.                                     | <i>Fodder Burnet</i> . | W. pl. . .               | Pu.             | 6-18 in. | P. 6-8                                   |
| <i>b. platylophum</i> (Jord.)   | . . . .                | . . . .                  | Pu.             | . . . .  | . . . .                                  |
| <sub>3</sub> . <i>P. officinale</i> A. Gray<br>( <i>Sanguisorba officinalis</i> L.) | <i>Great Burnet</i> .  | Wet mead. .              | Pu.             | 1-3 ft.  | P. 6-8                                   |
| <b>Gen. XI. Rosa</b> L.   |                        |                          |                 |          |  |
| *   |                        |                          |                 |          |  |
| * <sub>1</sub> . <i>R. sempervirens</i> L.  | <i>Evergreen Rose</i>  | Plants. . .              | Ro.             | 3-4 ft.  | Sh. 6-7                                  |
| <i>b. Melvini</i> (Townd.)  | . . . .                | Hedge. V. R.             | . .             | . . .    | . . .                                    |
| <sub>2</sub> . <i>R. arvensis</i> Huds. .   | <i>Trailing Rose</i> . | Woods and<br>hedges      | W.              | 2-6 ft.  | Sh. 6-8                                  |
| <i>b. gallicoides</i> Crép. .   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>c. ovata</i> Desv. . .   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>d. biserrata</i> Crép. .   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <sub>3</sub> . <i>R. stylosa</i> Desv. . .  | <i>Rose</i> . . . .    | Hedges . .               | W.<br>or<br>Pk. | 4-12 ft. | Sh. 6-7                                  |
| <i>b. Desvauxii</i> Baker   | . . . .                | . . . .                  | W.              | . . .    | . . .                                    |
| <i>c. opaca</i> Baker . .   | . . . .                | . . . .                  | W.              | . . .    | . . .                                    |
| <i>d. systyla</i> (Bast.) .   | . . . .                | . . . .                  | Pk.             | . . .    | . . .                                    |
| <i>e. leucochroa</i> (Desv.)  | . . . .                | . . . .                  | W.              | . . .    | . . .                                    |
| <i>f. pseudo-rusticana</i> .  | . . . .                | . . . .                  | W.              | . . .    | . . .                                    |
| Crép.   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>g. virginea</i> (Rip.) .   | . . . .                | . . . .                  | W.              | . . .    | . . .                                    |
| * * <i>Caninæ</i> .   |                        |                          |                 |          |  |
| <sub>4</sub> . <i>R. canina</i> L. . . .  | <i>Dog Rose</i> . .    | Hedges, etc.             | Pk.<br>or<br>W. | 3-8 ft.  | Sh. 6-7                                  |
| <i>b. sphærica</i> (Gren.) .  | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>c. andegavensis</i> (Bast.)  | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <sub>5</sub> . <i>R. squarrosa</i>  | . . . .                | . . . .                  | Pk.             | 3-8 ft.  | Sh. 6-7                                  |
| Ran.  | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| ( <i>dumalis</i> Bechst.)   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>b. verticillacantha</i>  | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| (Mérat.)  | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>c. aspernata</i> Déségl.   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |
| <i>d. latebrosa</i> Déségl.   | . . . .                | . . . .                  | . .             | . . .    | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IX. Agrimonia** (*continued*).

- \*2. Rad. ls. apparently ternate with 3 large oval lobes—Fl. enclosed in a leafy involucre—Fl. stem leafy, interrupted, branched—Pl. somewhat like a *Fragaria*.

**Gen. X. Poterium.**

1. Fl. monœcious—Ls. pinn.; lfts. many, sm. ov. sess.—Sta. many, exserted—Cal. of fr. quadrangular with 4 ent. wings.  
 \*2. Larger plant—Cal. of fr. sharply winged, pitted, pits with bluntly dentic. edges.  
*b. Fr. cal. with bluntly ent wings, pits with sharply dentic. edges.*  
 3. Fl. perfect—Lft. about 13, stalked cord.—Spikes ov.-obl.; sta. 4, not longer than cal.

**Gen. XI. Rosa.**

\* *Styles united in a column.*

- \*1. Branches elong., decumb., fol. evergreen, shining sep., gland. on back; sty col. hairy.  
*b. Sep. pinn. glab. on back—Fr. ripening in spring—Lft. glab. elong. sm.—Madresfield.*  
 2. Root shoots trailing—Prick. unequal, those on ramuli subul.—Sty. in a round head—Style col. equal, sta. glab.—Fr. with conspic. disk.  
*b. Upper part of stem covered with acicles and glandular.*  
*c. Prickles dilated, circ. at base; lft. hairy on mid-rib beneath—Fr. ovoid.*  
*d. Lfts. doubly serrate.*  
 3. Root shoots erect, arched—Sty. in a con. head, shorter than sta. glab.—Ls. hairy beneath—Ped. acic.  
*b. Lft. hairy on both sides, fl. wh., ped. glandular.*  
*c. Lfts. more hairy, fl. wh., ped. naked—Corymbosa Desr.*  
*d. Lfts. hairy on the veins beneath, glab. above, fl. pink, ped. gland.—Fr. ovoid.*  
*e. Like d, but fl. wh., ped. shorter, disk less prom.; styles less compact.*  
*f. Lft. glab., fl. wh., ped. strongly gland; disk very prom.—S.W. of Eng.*  
*g. Lft. glab. simp. serr., ped. naked, fr. glob.*  
 \* \* *Rootstock erect, arched—Styles free—Sepals deciduous before fruit ripens.*  
 4. Lft. glab., simply serr., secondary nerves not gland.—Ped. naked, sep. reflexed:  
*b. Petiole pubescent—Style villous—Fr. globose—Sep. patent—Lft. large.*  
*c. As type, but reduncle more or less bristly, glandular.*  
 5. Lft. glab., doubly or compoundly serr., margin glandular—Ped. naked.  
*b. Pedi. more or less bristly, glandular—Petioles hairy.*  
*c. As b.—Fruit also glandular.*  
*d. Bristles also at top of flowering branches—Prickles mixed with acicles.*

ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.                                  | Common Name.         | Soil<br>or<br>Situation.   | Colour.                 | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|----------------------|--|-------------------------|---------|--|
| <b>Gen. XI. Rosa L.</b><br>( <i>continued</i> ). |                      |  |                         |         |  |
| 6. <i>R. scabrata</i> Crép. .                    | . . . .              | Hedges, etc. R.  | Pk.                     | 3-6 ft. | Sh. 6-7                                  |
| <i>b. vinacea</i> (Baker) .                      | . . . .              | „ „  | ..                      | . .     | . .                                      |
| <i>c. Blondæana</i> (Rip.)                       | . . . .              | „ „  | Pk.                     | 3-6 ft. | Sh. 6-7                                  |
| 7. <i>R. dumetorum</i> Thuill.                   | . . . .              | Hedges, etc.   | Pk.                     | 3-6 ft. | Sh. 6-7                                  |
| <i>b. urbica</i> (Lem.) .                        | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>c. frondosa</i> (Baker) .                     | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>d. Deseglisii</i> (Bor.) .                    | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| * * * <i>Cristatæ</i> .                          |                      |  |                         |         |  |
| 8. <i>R. glauca</i> Vill. . .                    | . . . .              | Hed., thickets,<br>chiefly in hilly<br>or northern<br>districts. | Pk.<br>or<br>dk.<br>Pk. | 3-8 ft. | Sh. 6-7                                  |
| <i>b. glandulosa</i> Druce                       | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>c. subcristata</i> (Wats.)                    | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>d. marginata</i> (Baker)                      | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>e. implexa</i> (Gren.) .                      | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>f. subcanina</i> (Christ.)                    | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>g. celerata</i> (Baker) .                     | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| 9. <i>R. cæsia</i> Sm. . .                       | . . . .              | Hed., thickets   | Pk.<br>or<br>dk.<br>Pk. | 3-8 ft. | Sh. 6-7                                  |
| ( <i>R. coriifolia</i> Fr.)                      |                      |  |                         |         |  |
| <i>b. subcollina</i> Christ.                     | . . . .              | Scot. R. . .   | ..                      | . .     | . .                                      |
| <i>c. Watsoni</i> (Baker) .                      | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>d. obovata</i> (Baker) .                      | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>e. Bakeri</i> (Déségl.)                       | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>f. Lintoni</i> (Scheutz)                      | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| * * * * <i>Rubiginosæ</i> .                      |                      |  |                         |         |  |
| 10. <i>R. micrantha</i> Sm. .                    | <i>Sweet Brier</i> . | Thickets and<br>hedges   | R.<br>or<br>Ro.         | 3-6 ft. | Sh. 6-7                                  |
| <i>b. permixta</i> (Déségl.)                     | . . . .              | „ „ R.   | ..                      | . .     | . .                                      |
| <i>c. Briggsii</i> Baker .                       | . . . .              | „ „ R.   | ..                      | . .     | . .                                      |
| <i>d. hystrix</i> Baker .                        | . . . .              | „ „ R.   | ..                      | . .     | . .                                      |
| 11. <i>R. Eglanteria</i> L. .                    | <i>Sweet Brier</i> . | Thickets and<br>hedges   | R.<br>or<br>Ro.         | 3-6 ft. | Sh. 6-7                                  |
| ( <i>rubiginosa</i> L.)                          |                      |  |                         |         |  |
| <i>b. comosa</i> (Rip.) .                        | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>c. apricorum</i> (Rip.)                       | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>d. rotundifolia</i><br>(Reichb.)              | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>e. echinocarpa</i> (Rip.)                     | . . . .              | . . . .  | ..                      | . .     | . .                                      |
| <i>f. jenensis</i> (Schulze)                     | . . . .              | . . . .  | ..                      | . .     | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XI. *Rosa* (*continued*).

6. Lft. glab.—Secondary nerves more or less glandular—Ped. smooth, naked.  
*b. Serr. of lfts. open and compound—Fr. obl.—Veins of ls., bracts, etc., vinous red—Fr. ovoid—Lfts. broad.*  
*c. Ped. more or less hispid-gland.—Serr. very compound.—Fr. sub-globose.*  
 . Lft. pubescent at least on mid-rib, simp. serr.—Ped. naked.  
*b. Lft. glabrous above—Fr. ov.-obl.—Ped. naked—Styles densely hispid.*  
*c. Lft. small flat ov.-obl., much rounded at base—Fr. sm. sub-glob.—Ped. naked.*  
*d. Ped. more or less hispid, glandular—Lfts. small—Prickles arcuate.*

\* \* \* Rootstock erect, arched—Styles free—Sepals persistent till fr. changes colour.

8. Lft. glab., often glauc., ov., serr., simp.—Ped. naked—Sep. erect—Peti. glab.  
 —Chiefly in hilly or northern districts.

*b. Ped. gland.—Margins of lfts. gland.*

*c. Lft. doubly serrate—Sep. erect, comp. pinn., persistent—Pedunc. smooth.*

*d. Foliage, ped. and fr. glandular.*

*e. Lfts. hairy on nerves below, simply serr.—Fr. ovoid.*

*f. Sep. reflexed or spreading, lft. smaller, uniserrate.*

*g. "Habit and ls. of obtusifolia with fr. and sep." of 8—Petioles very glandular.*

9. Lft. hairy on both sides, simp. serr., fr. sub-glob.—Chiefly in hilly or northern districts.

*b. Lft. glab. above.*

*c. Lft. doubly serr.—Hairy on both sides, nearly egland. below.*

*d. Lft. obov. thinly hairy and gland. beneath, sharply doubly serr., ped. naked.*

*e. Sep. erect, sub-persist.—Lft. gland. beneath on mid-rib and secondary nerves compound serr.—Fr. obl. or turbinate.*

*f. Sep. and ped. egland., hry. on both sides—Gland. on mid-rib and 2nd nerves.*

Sweet Briars \* \* \* \* Styles free.—St. sub-erect—Lft. very glandular and odorous beneath.

10. Prickles uniform—Foliage weakly scented—Sty. glab.—Fr. ov.-urc.

*b. Lft. glab. oval very gland. below—Pedunc. hispid-gland.*

*c. Lft. less gland. beneath—Fr. and ped. naked.*

*d. Lft. narrow, glab. but gland. beneath—Ped. densely bristly.—Fr. naked.*

11. Prickles various, larger uncinat, smaller subulate—Fr. sub-glob.—Very odorous—Styles hispid or villous.

*b. Fr. ovate—Sep. persistent, erect, rarely spreading.*

*c. Fr. globose—Sep. not persistent, reflexed or spreading.*

*d. Prickles nearly straight—Lfts. very small, sub-orbic—Fr. sub-globose.*

*e. More glandular, branches often bristly—Fruit bristly.*

*f. Pedunc. recept. and back of sep. glab.*



ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.   | Common Name.                 | Soil<br>or<br>Situation.                                | Colour.          | Growth. | Duration<br>and<br>time of<br>flowering. |
|---|------------------------------|---|------------------|---------|--|
| <b>Gen. XI. Rosa L.</b><br>( <i>continued</i> ).                            |                              |   |                  |         |  |
| 12. <i>R. agrestis</i> <i>Savi</i> . .                                      | . . . .                      | Thick. chalk<br>downs, etc. R.                          | Ro.<br>or<br>Pk. | 3-6 ft. | Sh. 6-7                                  |
| <i>b. cryptopoda</i> ( <i>Baker</i> )                                       | . . . .                      | Nr. Halifax .   | . .              | . .     | . .                                      |
| * * * * *   |                              |   |                  |         |  |
| 13. <i>R. obtusifolia</i> <i>Desv.</i><br>( <i>tomentella</i> <i>Lem.</i> ) | . . . .                      | Hedges, etc.,<br>chiefly in the<br>M. and S. of<br>Eng. | W.               | 3-6 ft. | Sh. 6-7                                  |
| <i>b. concinna</i> ( <i>Baker</i> )   | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>c. Borreri</i> ( <i>Woods</i> )  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>d. decipiens</i> <i>Druce</i>  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| * * * * * <i>Villosæ.</i>   |                              |   |                  |         |  |
| 14. <i>R. mollissima</i> <i>Willd.</i><br>( <i>tomentosa</i> <i>Sm.</i> )   | <i>Downy-leaved<br/>Rose</i> | Hedges and<br>thickets                                  | Ro.              | 3-8 ft. | Sh. 6-7                                  |
| <i>b. cinerascens</i><br>( <i>Dum.</i> )                                    | . . . .                      | R. nr. Perth .  | . .              | . .     | . .                                      |
| <i>c. Sherardi</i> <i>Druce</i> .   | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>d. farinosa</i> <i>Bechst.</i> .   | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>e. pseudo-mollis</i><br><i>Baker</i>                                     | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>f. cuspidatoides</i> <i>Crép.</i>  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>g. britannica</i><br>( <i>Déségl.</i> )                                  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>h. fœtida</i> ( <i>Bast.</i> ) .   | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>i. scabriuscula</i><br>( <i>Winch</i> )                                  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>j. Woodsiana</i><br>( <i>Groves</i> )                                    | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>k. sylvestris</i> ( <i>Lindl.</i> )                                      | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>l. uncinata</i> ( <i>Lees</i> ) .  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>m. glabrata</i><br>( <i>Scheutz</i> )                                    | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>n. pseudo-rubiginosa</i><br>( <i>Lej.</i> )                              | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>o. suberecta</i> ( <i>Woods</i> )  | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| <i>p. Andrzejovii</i> ( <i>Stev.</i> )                                      | . . . .                      | . . . .   | . .              | . .     | . .                                      |
| 15. <i>R. omissa</i> <i>Déségl.</i> .                                       | <i>Downy Rose</i> .          | Thick. etc. R.  | Ro.              | 3-6 ft. | Sh. 6-7                                  |
| <i>b. resinosoides</i> ( <i>Crép.</i> )                                     | . . . .                      | . . . .   | . .              | . .     | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XI. *Rosa* (*continued*).

12. Prickles unequal, hooked, with few bristles, sep. sub-persist., closely pinn.—  
Lft. usually very gland. beneath—Ped. naked—Sty. glab. or hispid.

*b. Lft. glab. above, hairy on the main veins, thinly gland. beneath.*

\* \* \* \* \* *Leaflets small, very pubescent, with many inodorous glands.*

13. Lft. simp. serr.—Sep. reflexed, decid.—Stem suberect.

*b. Lft. larger, uniserr.—Ped. gland. bristly.*

*c. Lft. large, widely set, doubly serr.—Ped. short, usually naked.*

*d. Ped. glandular—Ls. small, close set, hairy on nerves beneath.*

\* \* \* \* \* *Sep. mostly persistent, densely glandular, ov. or ov.-lanc.—St. tall, prickly, nearly straight—Lft. very hairy and glandular—Odour usually resinous.*

14. Sep. falling as soon as fr. changes colour; very pinn., spreading—Fr. obl. with slight disk.

*b. Lft. simp. serr., hairy on both sides, fr. sub-glob.*

*c. Lft. doubly serr., densely hairy, nearly eglandular—Fr. glob.*

*d. Lft. densely grey-downy, glandular below—Ped. naked, short.*

*e. Main thorns falcate—Lft. broad ov.-ellip., densely and softly hairy; gland. only on mid-rib—Fr. pear-shaped.*

*f. Main thorn falc.—Lft. oval, hairy, glandular; ped. and fr. bristly; sep. sub-simp.—Styles woolly—Fl. bright red.*

*g. Thorns robust, nearly uncinat, lft. large, very hairy, gland.*

*h. Lft. slightly hairy, very gland.—Styles glab.—Fr. ovoid.*

*i. Lft. greener beneath, few hairs, lge., obl., few glands—Fr. obl.—Prickles straightish.*

*j. Like i, but lft. more compoundly serr., and more unc. thorns, ped. densely gland. bristly—Fr. ellipsoid.*

*k. Lft. nearly ovate, naked above, gland.—Fr. round—Prickles falcate.*

*l. Thorns uncinat—Lft. hairy on both surfaces, gland.—Ped. gland. bristly—Fr. pear-shaped.*

*m. Lft. glab. on both surfaces, slightly gland.—Scotland.*

*n. Lft. small obl. nearly glab. but very glandular beneath—Fr. sm. roundish—Thorns straight—Ped. densely bristly.*

*o. Fr. sep. narrowly ov.-lanc.—Lft. gland.—Ped. and fr. densely bristly, petiole with uncinat prickles—Bract vinous red.*

*p. Main thorns falcate, large—Lft. broad-ellip. gland.—Fr. glob.—Ped. hisp. gland.*

15. Mature thorns straight—Fr. sep. sub-erect, sub-persist.—Lft. ov. ellip. with copious glands—Ped. very short, hidden by conspic. bracts.

*b. Bracts smaller, not hiding peduncles.*

ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.  | Common Name.          | Soil<br>or<br>Situation.                     | Colour.                   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------|--|---------------------------|-----------|--|
| <b>Gen. XI. Rosa L. (<i>contd.</i>)</b>                |                       |  |                           |           |  |
| 16. <i>R. villosa</i> L. . . .                         | <i>Downy Rose</i> .   | Thick. chiefly<br>in N. Brit.                | Dp.<br>ro.<br>or<br>W.    | 3-6 ft.   | Sh. 6-8                                  |
| <i>b. caerulea</i> (Woods)                             | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>c. recondita</i> (Puget)                            | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>d. submollis</i> (Ley).                             | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| * 17. <i>R. pomifera</i> Herrm.                        | . . . .               | Plants, etc. R.                              | Ro.                       | 3-8 ft.   | Sh.                                      |
| * * * * * <i>Spinossima</i> .                          |                       |  |                           |           |  |
| × 18. <i>R. involuta</i> Sm. . .                       | . . . .               | Bushy pl. L.                                 | W.<br>Pk.<br>or<br>Ro.    | 1-5 ft.   | Sh.                                      |
| × 19. <i>R. hibernica</i> Templ.                       | . . . .               | Hed. bushy<br>pl. R.                         | . . .                     | 1-3 ft.   | Sh.                                      |
| 20. <i>R. spinosissima</i> L. .                        | <i>Burnet Rose</i> .  | Heaths and<br>sand dunes                     | W.<br>or <i>p.</i><br>Pk. | 6-24 in.  | Sh. 5-7                                  |
| <i>b. pimpinellifolia</i> (L.)                         | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>c. Ripartii</i> (Déségl.)                           | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>d. rubella</i> (Sm.) .                              | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <b>Gen. XII. Pyrus L.</b>                              |                       |  |                           |           |  |
| * <i>Pear and Apple</i> .                              |                       |  |                           |           |  |
| 1. <i>P. Malus</i> L. . . .                            | <i>Crab</i> . . . .   | Hedges and<br>woods                          | Pk.<br>and<br>W.          | 6-30 ft.  | T. 4-5                                   |
| <i>a. acerba</i> (DC.) .                               | <i>Sour Crab</i> . .  | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>b. mitis</i> (Wallr.) .                             | <i>Crab Apple</i> . . | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| 2. <i>P. communis</i> L. . . .                         | <i>Pear</i> . . . .   | Hed. etc. R.                                 | W.                        | 10-50 ft. | T. 5-6                                   |
| <i>a. Pyraister</i> (Bor.) .                           | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>b. Achras</i> (Gaertn.)                             | . . . .               | . . . .                                      | . . . .                   | . . . .   | . . . .                                  |
| <i>c. cordata</i> (Desv.) .                            | . . . .               | Hed. etc. V. R.<br>Dev. Cornw.<br>and Heref. | . . .                     | 10-12 ft. | Sm. T.<br>5-6                            |
| * * <i>Mountain Ash and Service</i> ( <i>Sorbus</i> ). |                       |  |                           |           |  |
| 3. <i>P. aucuparia</i> L. . . .                        | <i>Mountain Ash</i> . | Woods, etc. .                                | <i>cm.</i><br>W.          | 6-30 ft.  | T. 5-6                                   |
| × <i>pinnatifida</i> Ehrh. .                           | . . . .               | Roc. glen,<br>Arran. R.                      | . . .                     | . . .     | 6-7                                      |
| 4. <i>P. intermedia</i> Ehrh.                          | . . . .               | . . . .                                      | <i>cm.</i>                | 6-20 ft.  | . . .                                    |
| <i>b. scandica</i> E. & H.                             | . . . .               | . . . .                                      | W.                        | . . .     | . . .                                    |
| <i>c. Mougeoti</i> E. & H.                             | . . . .               | . . . .                                      | . . .                     | . . .     | . . .                                    |
| <i>d. minima</i> (Ley) .                               | . . . .               | Mt. cliff . .                                | <i>cm.</i><br>W.          | 4-12 ft.  | Sh. 6-7                                  |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XI. *Rosa* (*continued*).

16. Fr. sep. lanc. convex at back, erect, persist. till fruit ripens, slightly pinn., no disk—Fr. sub-glob., bristly—Prickles nearly straight.

*b. Ped. and fr. naked—Lfts. softer and grayer, less glandular.*

*c. Fr. large—Lft. glandular.*

*d. Eglandular—Disk inconspic.—Fr. sep. sub-persistent, suberect.*

- \*17. Lft. large, obl. lanc.—Sep. profusely pinn.—Fr. glob., purp.-viol.—Pet. ciliate.

\* \* \* \* \* Shoots setigerous.

- × 18. Prickles scattered, unequal straight, or curved. Under this are numerous hybrids of *R. villosa*, *R. mollissima*, etc., with *R. spinosissima*.

- × 19. Prickles few, unequal, the larger curved—Fr. sub-glob. glab. red. Under this are grouped hybrids of *R. canina*, *R. glauca*, etc., with *R. spinosissima*.

20. Lft. simp. serr. small, glab. above—Prickles many, crowded, unequal—Sep. simp.—Fr. glob. erect, glab. black.

*b. Lft. simp. serr., ped. glandular.*

*c. Lft. doub. serr. somewhat gland.*

*d. Lft. glab. egland.—Fr. red—Perhaps a hybrid of No. 20 with pendulina and not native.*

Gen. XII. *Pyrus*.

- \* *Fr. rather large except in 2 c., 5 celled—Fl. in simp. corymb. or umbell. cymes.*

1. Ls. ov.-obl.—Fl. in sess. umb.—Sty. united below—Fr. glob.

*a. Pedicels and undersides of ls. glab.—Fr. drooping; very austere.*

*b. Pedicels and undersides of ls. pubescent—Fr. sub-erect; less sour, larger.*

2. Ls. ellip. serr.—Fl. in corymb.—Sty. distinct—Fr. pear-shaped.

*a. Ls. downy beneath at first, afterwards glab.—Fr. elongate-pyriform, obcon. at base, 1-2 in.*

*b. Ls. pubescent beneath when mature—Fr. glob.-pyriform, rounded at base, 1-1½ in.*

*c. Ls. cord. ov. nearly glab.—Fr. small, ⅔-½ in. glob. or pyriform.*

- \* \* *Fr. small, 2-5 celled—Fl. mostly in compound, corymb. cymes—Cr. white.*

3. Ls. pinn.; lft. serr., downy beneath—Fls. corymb.—Fr. glab., scarlet.

- × *P. fennica* Bab.—Ls. obl. serr. pinn. below, with 1-4 pairs of decurrent lfts. which are obl. or narr. ellip.—Prob. a hybrid of 3 and 5.

4. Ls. obl., doub. serr. nr. apex, pinnfid. below, lobes obl. lanc. serr.

*b. Ls. less narrowed, almost rounded at base, deeply lobed with numerous sharp teeth, and 6-8 pair nerves—Fr. large.*

*c. Ls. narrowed at base, with 9-12 pair of nerves—Fr. small.*

*d. Ls. lin. obl. with 3-4 pair of lobes and 6-8 pair of nerves—Fr. sm. glob. with erect cal. lobes.*

ORD. XXVI.—ROSACEÆ (*continued*).

| Botanical Name.   | Common Name.          | Soil<br>or<br>Situation.                                | Colour.   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------|---|-----------|-----------|--|
| <b>Gen. XII. <i>Pyrus</i> L.</b><br>( <i>continued</i> ).     |                       |   |           |           |  |
| 5. <i>P. Aria</i> Ehrh. . .                                   | <i>White Beam</i> .   | Woods on<br>calc. soil                                  | cm.<br>W. | 6-40 ft.  | T. 5-6                                   |
| <i>b. rupicola</i> (Syme)                                     | . . . . .             | . . . . .   | . . . . . | . . . . . | . . . . .                                |
| 6. <i>P. latifolia</i> Syme .                                 | . . . . .             | Hilly woods R.  | cm.<br>W. | 6-20 ft.  | T. 5-6                                   |
| 7. <i>P. torminalis</i> Ehrh.                                 | <i>Service Tree</i> . | Woods. L. .   | cm.<br>W. | 6-50 ft.  | T. 5-6                                   |
| * * * <i>Medlar</i>   |                       |   |           |           |  |
| 8. <i>P. germanica</i> L. . .                                 | <i>Medlar</i> . . .   | Hedges, etc. R.   | W.        | 6-10 ft.  | T. 5-6                                   |
| <b>Gen. XIII. <i>Cratægus</i> L.</b>                          |                       |   |           |           |  |
| 1. <i>C. Oxyacantha</i> L. .                                  | <i>Hawthorn</i> . .   | Hedges, etc.  | W.        | 6-50 ft.  | T. 5-6                                   |
| ( <i>C. monogyna</i><br><i>Jacq.</i> )                        |                       |   |           |           |  |
| <i>b. laciniata</i> (Wallr.)                                  | . . . . .             | . . . . .   | . . . . . | . . . . . | . . . . .                                |
| <i>c. kyrtostyla</i><br>( <i>Fingerh.</i> )                   | . . . . .             | . . . . .   | . . . . . | . . . . . | . . . . .                                |
| <i>d. splendens</i> Druce                                     | . . . . .             | . . . . .   | . . . . . | . . . . . | . . . . .                                |
| 2. <i>C. oxyacanthoides</i><br><i>Thuill.</i>                 | <i>Hawthorn</i> . .   | Open woods,<br>hedges, etc.,<br>chiefly in<br>Midlands. | W.        | 6-15 ft.  | T. 5-6                                   |
| <i>b. eriocalyx</i> Druce                                     | . . . . .             | . . . . .   | . . . . . | . . . . . | . . . . .                                |
| <b>Gen. XIV. <i>Cotoneaster</i></b><br><i>Med.</i>            |                       |   |           |           |  |
| 1. <i>C. integerrima</i> Med.<br>( <i>C. vulgaris</i> Lindl.) | . . . . .             | Calc. cliffs,<br>Orme's Head.<br>V. R.                  | Pk.       | 6-24 in.  | Sh. 5-6                                  |

## ORD. XXVII.—SAXIFRAGACEÆ.

|   |   |                 |           |           |           |
|---|---|-----------------|-----------|-----------|-----------|
| <b>Gen. I. <i>Saxifraga</i> L.</b>                      |   |                 |           |           |           |
| 1. <i>S. aizoides</i> L. . .                            | <i>Saxifrage</i><br><i>Yell. Mt. Sax.</i> | Alp. rills . .  | Y.        | 4-6 in.   | P. 6-9    |
| 2. <i>S. oppositifolia</i> L. .                         | <i>Purple S.</i> . . .                    | Alp. cliffs . . | Pu.       | 4-8 in.   | P. 4-6    |
| 3. <i>S. hypnoides</i> L. . .                           | <i>Mossy S.</i> . . . .                   | Rocks . . . .   | W.        | 2-12 in.  | P. 5-7    |
| <i>a. gemmipara</i> Syme                                | . . . . .                                 | . . . . .       | . . . . . | . . . . . | . . . . . |
| <i>b. sponhemica</i> (Gm.)                              | . . . . .                                 | . . . . .       | . . . . . | . . . . . | . . . . . |
| <i>c. Sternbergii</i><br>( <i>Willd.</i> )              | . . . . .                                 | R. . . . .      | . . . . . | 2-8 in.   | . . . . . |
| <i>d. rosacea</i> (Moench)<br>( <i>decipiens</i> Ehrh.) | . . . . .                                 | Mt. V. R. . .   | . . . . . | 2-4 in.   | . . . . . |
| <i>e. caespitosa</i> (L.) .                             | . . . . .                                 | Mt. V. R. . .   | . . . . . | 1-4 in.   | . . . . . |

ORD. XXVI.—ROSACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XII. *Pyrus* (*continued*).

5. Ls. ovate, serr., lobed; white and downy beneath, lat. vein 9-14 on each side—Fl. corymb.—Fr. glob., red.  
*b. Ls. of fl. shoot obov., lat. veins 5-8 on each side.*
6. Ls. of fl. shoot, ellip., lat. veins 5-9 on each side—Underside of ls. ashy, felted flocculent—Fr. dark or reddish brown.
7. Ls. ov. cord. glab., lobed; lobes triang. serr., lower ones spreading—Fr.  $\frac{1}{2}$  in. dotted, oval, brownish.  
*\* \* \* Fr. large, endocarp bony—Fl. sol. (Mespilus).*
8. Ls. lanc. simp., downy beneath—Branches spinous when wild.

Gen. XIII. *Cratægus*.

1. Spinous—Ls. more or less ent., veins of lr. lobes curving outwards—Fl. corymb.—Cal. and ped. pubescent—Style 1; rarely 2.  
*b. Ls. deeply pinnfid.*  
*c. As 1, but styles deflexed.*  
*d. Fr. very large obl.—Ls. more cuneate at base.*  
 Hybrids of 1 and 2 are found.
2. Spinous—Ls. less cut than 1—Veins of lower lobes incurved—Cal. and ped. glab.—Style 2-3.  
*b. Cal. and ped. hairy.*

Gen. XIV. *Cotoneaster*.

1. Ls. ov., densely hairy beneath, entire, deciduous—Fr.  $\frac{1}{4}$  in. blood red.

## ORD. XXVII.—SAXIFRAGACEÆ.

Gen. I. *Saxifraga*.

1. St. decumb.—Ls. alt. ent. lin. cili. crowded at base—Cal. conn. at base—Pet. narrow, not contig., bright yell. dotted.
2. St. prost.—Ls. all oppos. sm. obt. imbric.—Fl. purple.
3. Fl. stem erect, ster. st. decumb. elong., ls. 3-5 cleft; calyx tube short obcon. or hemisph.; lobes spreading—Very variable.  
*a. Ls. of ster. shoots with axill. buds, entire.*  
*b. Pet. obl., sep. subu.—Ls. chiefly 3 cleft, barren shoots shorter without buds.*  
*c. Ls. and stem hairy—Plants robust—Sep. obl. ov. obtuse—Pet. ob.-ovate—Irish mts.*  
*d. Ls. all rosulate in close tufts—Sep. obl.-lanc. sub-acute; paler green.*  
*e. Densely tufted—Cal. tube longer than broad—Plant clothed with globular gland.-tipped hairs.*



ORD. XXVII.—SAXIFRAGACEÆ (*continued*).

| Botanical Name.                                      | Common Name.                          | Soil<br>or<br>Situation.    | Colour.         | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---------------------------------------|-----------------------------|-----------------|----------|--|
| <b>Gen. I. Saxifraga</b> L.<br>( <i>continued</i> ). |                                       |                             |                 |          |  |
| 4. <i>S. granulata</i> L. . . .                      | <i>Meadow S.</i> . . .                | Gravelly<br>meadows, etc.   | W.              | 6-12 in. | P. 5-6                                   |
| 5. <i>S. cernua</i> L. . . .                         | <i>Drooping S.</i> . . .              | Rocks, Ben<br>Lawers. V. R. | W.              | 2-4 in.  | P. 7-8                                   |
| 6. <i>S. rivularis</i> L. . . .                      | <i>Alp. S.</i> . . .                  | Wet Alpine<br>roc. R.       | W.              | 1-4 in.  | P. 7-8                                   |
| 7. <i>S. tridactylites</i> L. . .                    | <i>Rue-leaved S.</i> . .              | Walls and dry<br>sandy gr.  | W.              | 2-5 in.  | A. 4-7                                   |
| 8. <i>S. nivalis</i> L. . . .                        | <i>Alp. Clustered S.</i>              | Mt. cliffs, R.              | W.              | 3-6 in.  | P. 7-8                                   |
| 9. <i>S. Hirculus</i> L. . . .                       | <i>Marsh S.</i> . . .                 | Wet moors.<br>V.R.          | Y.              | 4-8 in.  | P. 7-8                                   |
| 10. <i>S. stellaris</i> L. . . .                     | <i>Starry S.</i> . . .                | Dp. Alp. pl. .              | W.              | 2-8 in.  | P. 7-8                                   |
| 11. <i>S. umbrosa</i> L. . . .                       | <i>London Pride</i> . .               | Irish mts., etc.            | W.<br>or<br>pk. | 6-12 in. | P. 6-7                                   |
| <i>b. punctata</i> Don. . . .                        | . . . . .                             | . . . . .                   | pk.             | . . .    | . . .                                    |
| <i>c. serratifolia</i> Don.                          | . . . . .                             | . . . . .                   | W.              | . . .    | . . .                                    |
| 12. <i>S. hirsuta</i> L. . . . .                     | . . . . .                             | . . . . .                   | Pk.             | 6-12 in. | P. 6-7                                   |
| 13. <i>S. Geum</i> L. . . . .                        | . . . . .                             | . . . . .                   | Pk.             | 6-12 in. | P. 6-7                                   |
| <i>b. dentata</i> Wats. . .                          | . . . . .                             | . . . . .                   | . . .           | . . .    | . . .                                    |
| ( <i>serrata</i> Syme)                               | . . . . .                             | . . . . .                   | . . .           | . . .    | . . .                                    |
| <i>c. elegans</i> (Mackay)                           | . . . . .                             | Connor Hill. R.             | . . .           | . . .    | . . .                                    |
| <b>Gen. II. Chrysosplenium</b> L.                    |                                       |                             |                 |          |  |
| <i>Golden Saxifrage</i>                              |                                       |                             |                 |          |  |
| 1. <i>C. alternifolium</i> L. .                      | <i>Alternate-leaved</i><br>G.         | Wet pl. L. .                | Y.              | 2-4 in.  | P. 4-7                                   |
| 2. <i>C. oppositifolium</i> L.                       | <i>Opposite-l. G.</i> .               | Wet pl. . .                 | Y.              | 2-4 in.  | P. 4-7                                   |
| <b>Gen. III. Parnassia</b> L.                        |                                       |                             |                 |          |  |
| 1. <i>P. palustris</i> L. . . .                      | <i>Grass of Parnas-</i><br><i>sus</i> | Marshes and<br>bogs         | W.              | 1-8 in.  | P. 7-9                                   |
| <b>Gen. IV. Ribes</b> L.                             |                                       |                             |                 |          |  |
| 1. <i>R. Uva-crispa</i> L. . .                       | <i>Gooseberry</i> . . .               | Hedges . . .                | G.              | 2-4 ft.  | Sh. 4-5                                  |
| <i>b. Grossularia</i> (L.)                           | . . . . .                             | . . . . .                   | . . .           | . . .    | . . .                                    |
| *  |                                       |                             |                 |          |  |
| 2. <i>R. nigrum</i> L. . . . .                       | <i>Black Currant</i> .                | Wo. thick. etc.             | y G.            | 3-5 ft.  | Sh. 4-5                                  |
| 3. <i>R. rubrum</i> L. . . . .                       | <i>Red Currant</i> . .                | Woods, str.<br>sides, etc.  | y G.            | 3-5 ft.  | Sh. 4-5                                  |
| <i>a. sativum</i> Reichb.                            | . . . . .                             | . . . . .                   | . . .           | . . .    | . . .                                    |
| <i>b. petraeum</i> (Sm.)                             | . . . . .                             | Mt. woods .                 | . . .           | . . .    | . . .                                    |
| <i>c. spicatum</i> (Robs.)                           | . . . . .                             | Thick. York<br>and Skye. R. | . . .           | . . .    | . . .                                    |
| 4. <i>R. alpinum</i> L. . . .                        | <i>Alp. C.</i> . . . .                | Wo. in N.E. L.              | y G.            | 2-4 ft.  | Sh. 4-5                                  |

ORD. XXVII.—SAXIFRAGACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Saxifraga* (*continued*).

4. Ls. reni., lobed—Pl. gland.-pubesc.—Rootstock bulbiferous—Panicle many fld.
5. St. erect, bulbiferous in leaf axils—Ls. palmately lobed.
6. St. decumb.; rooting—Ls. palmately 5 lobed—Cal. lobes acute—Does not grow below 2500 feet.
7. St. erect—Ls. alt. cuneate, 3-5 fld.; upper ent.—Cal. lobes obt.
8. Ls. broadly spath. cren. dent.; Sep. adnate to base of carp.—Pet. unspotted, cyme dense.
9. St. subsimp. erect; Fl.  $\frac{1}{2}$ – $\frac{3}{4}$  in. yellow dotted with red, sub-sol.—Pet. obov.—Rad. ls. lanc. or spath.; stem ls. lin.—Cal. reflexed free.
10. Ls. rosulate, subsess. cun.-lanc.; coarsely toothed—Sep. almost free—Pet. white with 2 orange dots above base—Cyme lax—Frequent in mt. places.
11. Ls. leathery obov. blunt, suddenly narrowed into a broad, flat peti.
  - b. Ls. orb. serr. in a loose rosette—Peti. longer.*
  - c. Ls. ob. ov. sharply toothed, erect.*
12. Ls. leathery, oval, heart-shaped, blunt, sharply toothed, very hairy.
13. Ls. leathery, orbic. reni., cordate at base, toothed, hairy—St. slender—Hairy.
  - b. Ls. dent. serr. not tapering to the slend. peti.*
  - c. Ls. acutely toothed, round, sm. shining, not tapering into the dilated peti.*

Gen. II. *Chrysosplenium*.

1. St. simp. erect—Ls. alt., lower long-stalked.
2. St. decumb.—Ls. opp., lower shortly stalked.

Gen. III. *Parnassia*.

1. Rad. ls. ov., cord., long-stalked—St. leaf sess. or o., near the middle of stem—Fl. sol. term  $\frac{1}{2}$ –1 in.

Gen. IV. *Ribes*.

1. St. spinous—Ped. 1-3 fld., short hairy—Bract minute—Fr. glab.
  - b. Fr. hispid—hairy.*
  - \* Stem not spinous, flowers many in racemes.*
2. Cal. pubesc.—Rac. pend. lax, downy—Bract subu. shorter than fl.—Foliage odorous.
3. Cal. glab.—Rac. of fl. mostly pend. glab.—Bract ov. shorter than fl.
  - a. Rac. and ls. glab.—Usually bird-sown.*
  - b. Rac. slightly downy in flower upright, in fr. pend.*
  - c. Ls. hairy above when young, toment. beneath; rac. erect in fl. and fr.*
4. Cal. glab.—Rac. erect in fl. and fr.—Bracts longer than fl.—Fr. insipid.

## ORD. XXVIII.—CRASSULACEÆ.

| Botanical Name.                           | Common Name.            | Soil<br>or<br>Situation.        | Colour.         | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|---------------------------------|-----------------|----------|--|
| <b>Gen. I. Tillæa</b> <i>L.</i>           |                         |                                 |                 |          |  |
| 1. <i>T. muscosa</i> <i>L.</i> . . .      | . . . .                 | San. hths. L.                   | W.              | 1-2 in.  | A. 6-7                                   |
| <b>Gen. II. Cotyledon</b> <i>L.</i>       |                         |                                 |                 |          |  |
| 1. <i>C. Umbilicus</i> <i>L.</i> . . .    | <i>Navelwort</i> . . .  | Walls and roc.                  | y G.            | 4-12 in. | P. 6-8                                   |
| <b>Gen. III. Sedum</b> <i>L.</i>          | <i>Stonecrop</i>        |                                 |                 |          |  |
| 1. <i>S. Telephium</i> <i>L.</i> . . .    | <i>Orpine</i> . . .     | Thick. and<br>waysides, etc.    | Pu.             | 6-24 in. | P. 7-8                                   |
| <i>b. purpureum</i> <i>L.</i> . . .       | . . . .                 | . . . .                         | . . .           | . . .    | . . .                                    |
| * . . . .                                 |                         |                                 |                 |          |  |
| 2. <i>S. rupestre</i> <i>L.</i> . . .     | <i>Yellow S.</i> . . .  | Rocks. R. . .                   | Y.              | 6-10 in. | P. 6-7                                   |
| <i>b. minus</i> <i>Syme.</i> . . .        | . . . .                 | . . . .                         | . . .           | . . .    | . . .                                    |
| *3. <i>S. reflexum</i> <i>L.</i> . . .    | <i>Lge. Yellow S.</i>   | Walls, roc. pl.                 | Y.              | 6-12 in. | P. 6-7                                   |
| <i>b. albescent</i> ( <i>Haw.</i> ) . . . | . . . .                 | Dry hills. R.                   | . . .           | 4-6 in.  | P. 6-7                                   |
| 4. <i>S. Forsterianum</i> <i>Sm.</i>      | <i>Sm. Welsh S.</i> . . | Rocks. L.<br>W. of E.           | Y.              | 6-10 in. | P. 6-7                                   |
| <i>b. glaucescent</i> <i>Wats.</i>        | . . . .                 | . . . .                         | . . .           | . . .    | . . .                                    |
| *5. <i>S. sexangulare</i> <i>L.</i> . .   | <i>Tasteless Mt. S.</i> | Old walls.<br>V. R.             | Y.              | 3-6 in.  | P. 7-8                                   |
| 6. <i>S. acre</i> <i>L.</i> . . . .       | <i>Biting Yellow S.</i> | Dry soils,<br>walls, etc.       | Y.              | 3-8 in.  | P. 6-7                                   |
| * * . . .                                 |                         |                                 |                 |          |  |
| 7. <i>S. album</i> <i>L.</i> . . . .      | <i>White S.</i> . . . . | Walls and<br>rocks              | W.              | 3-5 in.  | P. 6-7                                   |
| * <i>b. micranthum</i> ( <i>Bast.</i> )   | . . . .                 | Walls. R. . .                   | . . .           | 3-4 in.  | . . .                                    |
| 8. <i>S. dasyphyllum</i> <i>L.</i> . .    | <i>Thick-leaved S.</i>  | Walls . . .                     | ro.<br>W.       | 2-3 in.  | P. 6-7                                   |
| 9. <i>S. anglicum</i> <i>Huds.</i> . .    | <i>English S.</i> . . . | Rocks, chiefly<br>near the sea  | W.<br>or<br>Pk. | 3-5 in.  | A. 6-8                                   |
| 10. <i>S. villosum</i> <i>L.</i> . . .    | <i>Bog S.</i> . . . .   | Alp. bogs. L.                   | p.<br>Pu.       | 3-4 in.  | A. 6-7                                   |
| * * * . . .                               |                         |                                 |                 |          |  |
| 11. <i>S. roseum</i> <i>Scop.</i> . . .   | <i>Rose root.</i> . . . | Mt. rocks and<br>nr. sea cliffs | Y. or<br>Pu.    | 6-18 in. | P. 5-8                                   |
| ( <i>Rhodiola rosea</i> <i>L.</i> )       |                         |                                 |                 |          |  |
| <b>Gen. IV. Sempervivum</b><br><i>L.</i>  |                         |                                 |                 |          |  |
| *1. <i>S. tectorum</i> <i>L.</i> . . .    | <i>Housleek.</i> . . .  | Roofs . . .                     | Pu.             | 1-2 ft.  | P. 7-8                                   |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Tillæa.**

1. St. procumb., tufted, reddish—Ls. obl. opp.—Fl. sess., axill., 3 cleft.

**Gen. II. Cotyledon.**

1. Ls. fleshy, pelt. cren.—St. simp. with rac. of pale pend. fl.

**Gen. III. Sedum.**

1. Ls. oval-obl. serr. sess. rounded at base—Fl. purp. 5 partite.

*b. Ls. cuneate at base, very shortly stalked.*

*\* Flowers yellow.*

2. Ls. lin. lanc., flattened, glauc. ; those of the barren shoots adpr.—Fl. in flat top ped. cyme, with branches  $1\frac{1}{2}$ –2 in. long—Sep. obl. obt.

*b. Smaller and more slender—Cyme branches  $\frac{3}{4}$ –1 in. long—W. of Eng*

- \*3. Ls. subu., cylind., lower ones recurved—Pet. obt. ; sep. ov., acute.

*b. Lower ls. glauc.—Fl. pale yell.*

4. Ls. lanc. not glauc.—Fl. in compact round-topped cyme—Sep. obt.

*b. Short, glob., barren stems, ls. glaucescent.*

- \*5. Ls. lin.-obt., spreading, arranged in 6 rows—Sep. acute, not gibbous—Taste insipid.

6. Ls. alt. gibb. ov., imbricate on barren shoots—Pan. trifid. leafy—Sep. obt. glab.—Taste hot—Stem 3–5 in. high—Branches trailing—*S. Drucei* Gr.

*\* \* Flowers white, pinkish white, or purplish.*

7. Flowering stem erect—Ls. lin. obt., flattened above—Pan. much branched—Pet. lanc.

*\*b. Ls. flattened on both surfaces, smaller, sep. rounder ; pet. more acute.*

8. Flowering stems weak, procumb.—Ls. opp. sub-globose, gland. pubesc. glauc.

9. Fl. stem ascending—Ls. alt., gibb., ovate, glab.—Pan. bifid—Pet. very pointed.

10. St. erect—Ls. lin. alt., flat above—St. and ls. gland.-pubesc.

*\* \* \* Rootstock woody, stout peren.—Stem annual.*

11. Ls. flat, ob.-ov., fleshy, glauc.—Fl. yel., or purplish, 4 partite, diœcious.

**Gen. IV. Sempervivum.**

- \*1. Ls. ov. lanc., fleshy, ciliate, in a rose-like tuft—Offsets spreading.

## ORD. XXIX.—DROSERACEÆ.

| Botanical Name.  | Common Name.                        | Soil<br>or<br>Situation.       | Colour.  | Growth.        | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------------------|--------------------------------|----------|----------------|--|
| <b>Gen. I. Drosera L.</b>                                    | <i>Sundew</i>                       |                                |          |                |  |
| 1. <i>D. anglica</i> Huds. .                                 | <i>Long-leaved S.</i>               | Bogs. L. . .                   | W.       | 4-8 in.        | P. 7-8                                   |
| 2. <i>D. longifolia</i> L. . .<br>( <i>D. intermedia</i> )   | <i>Lesser-long-<br/>leaved S.</i>   | Bogs . . .                     | W.       | 2-4 in.        | P. 7-8                                   |
| 3. <i>D. rotundifolia</i> L. . .<br>× <i>obovata</i> M. & K. | <i>Common S.</i> . . .<br>. . . . . | Bogs . . . .<br>Bogs. L. . . . | W.<br>.. | 3-6 in.<br>. . | P. 7-8<br>. .                            |

## ORD. XXX.—HALORAGACEÆ.

|  |                         |                                 |    |                      |                  |
|--|-------------------------|---------------------------------|----|----------------------|------------------|
| <b>Gen. I. Hippuris L.</b>                               |                         |                                 |    |                      |                  |
| 1. <i>H. vulgaris</i> L. . . .                           | <i>Mare's-tail</i> . .  | Ditches, etc.                   | G. | 6-24 in.             | P. 6-7           |
| <i>b. fluviatilis</i> Web. . .                           | . . . . .               | . . . . .                       | .. | 1-4 ft.              | . .              |
| <b>Gen. II. Myriophyllum L.</b>                          | <i>Water Milfoil</i>    |                                 |    |                      |                  |
| 1. <i>M. spicatum</i> L. . . .                           | <i>Spiked-W.</i> . .    | Ditches, ponds                  | .. | Flo.                 | P. 6-8           |
| 2. <i>M. alterniflorum</i> DC.                           | <i>Alt.-fld. W.</i> . . | Streams, etc.                   | .. | Flo.                 | P. 6-8           |
| 3. <i>M. verticillatum</i> L..                           | <i>Whorled W.</i> . .   | Ponds, etc. . .                 | .. | Flo.                 | P. 7-8           |
| <i>b. pectinatum</i> (DC.)                               | . . . . .               | . . . . .                       | .. | . .                  | . .              |
| <b>Gen. III. Callitriche L.</b>                          | <i>Water Starwort</i>   |                                 |    |                      |                  |
| *  |                         |                                 |    |                      |                  |
| 1. <i>C. stagnalis</i> Scop. .                           | . . . . .               | Ponds, and<br>watery pl.        | .. | Flo.                 | A. or P.<br>4-9  |
| 2. <i>C. obtusangula</i> Le Gall.                        | . . . . .               | Ponds, etc. . .                 | .. | Flo.                 | A. or P.<br>4-9  |
| <i>b. lachii</i> (Warren) .                              | . . . . .               | . . . . .                       | .. | . .                  | . .              |
| 3. <i>C. palustris</i> L. . . .<br>( <i>C. verna</i> L.) | . . . . .               | Ditches, etc.<br>R.             | .. | Flo.                 | A. or P.<br>5-9  |
| 4. <i>C. polymorpha</i> Lönn.                            | . . . . .               | Watery pl.<br>V. R.             | .. | Flo.                 | A. or P.<br>6-9  |
| 5. <i>C. intermedia</i> Hoffm.<br>( <i>C. hamulata</i> ) | . . . . .               | Lakes,<br>streams, etc.         | .. | Flo.                 | A. or P.<br>4-9  |
| <i>b. pedunculata</i> DC..                               | . . . . .               | Damp places                     | .. | $\frac{1}{2}$ -2 in. | A. or P.<br>4-9  |
| * *  |                         |                                 |    |                      |                  |
| 6. <i>C. autumnalis</i> L. .                             | . . . . .               | Lakes in N.B.                   | .. | Flo.                 | A. or P.<br>6-10 |
| 7. <i>C. truncata</i> Guss. .                            | . . . . .               | Ditches. R.<br>in S. of E. etc. | .. | Flo.                 | A. or P.<br>6-9  |

(Bentham puts all the species under *C. aquatica* Sm., and places the genus with the Monochlamyds.)

## ORD. XXIX.—DROSERACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Drosera.**

1. Ls. ob-ov., lanc. erect—Peti. glab.—Fl. stalks erect from centre of rosette of ls.
2. Ls. obl., spath. erect—Peti. glab.—Fl. stalks curved from the base of rosette.
3. Ls. orbic. spread., peti. hairy.  
     × *A hybrid of 1 and 3, ls. broadly ob.-ov.*

## ORD. XXX.—HALORAGACEÆ.

**Gen. I. Hippuris.**

1. St. simp.—Ls. lin. whorled—Fl. axill.  
     *b. Wholly submerged—Ls. broader, thinner.*

**Gen. II. Myriophyllum.**

1. Fl. in leafless spike, erect in bud—Ls. 4 in a whorl—Bract ent.—Gr. all winter.
2. Fl. in leafless spike, nodding in bud—Ls. 3 in a whorl—Bract pect.
3. Fl. in axill. whorls with pect. bracts—Ls. 5 in whorl—Not gr. in winter.  
     *b. Bracts scarcely longer than flowers—In shallow water or on mud.*

**Gen. III. Callitriche.**

\* *Leaves narrowed at base ; usually with floating rosettes.*

1. Fr. subsess., lobes winged on the back, slightly spreading.
2. Fr. subsess., lobes parallel with rounded edges—Ls. ob.-ov.  
     *b. Ls. lin.—Fr. smaller—Cheshire.*
3. Fr. smaller than 1 and 2, bluntly keeled on back, convex on side, keels of each pair of lobes converging.
4. Fr. small as in 3, lobes keeled, scarcely winged—Sty. very long, 2-3 times as long as fr.—Probably a hybrid of 1 and 5.
5. Fr. sess., with blunt dorsal ridge flat on side—Ls. lin., upper obl. spath.—Fr. small as 3.  
     *b. Fr. stalked—Ls. lin., upper broader.*  
     \* \* *Wholly submerged—Ls. enlarged at base.*
6. Fr. 4 times as large as 3, lobes broadly and acutely winged—Bracts o.—Ls. dark gr.
7. Fr. lobes with a blunt dorsal ridge—Ls. translucent gr.—Ch. Isles, Wexford, and S. of E.—Our plant is var. *occidentalis* Rouy.



## ORD. XXXI.—LYTHRACEÆ.

| Botanical Name.                  | Common Name.                       | Soil or Situation.            | Colour. | Growth.  | Duration and time of flowering. |
|----------------------------------|------------------------------------|-------------------------------|---------|----------|---------------------------------|
| <b>Gen. I. Peplis L.</b>         |                                    |                               |         |          |                                 |
| 1. <i>P. Portula L.</i> . . .    | <i>Water Purslane</i>              | Wet heathy pl. marg. of ponds | Pu.     | 3-8 in.  | A. 7-8                          |
| <b>Gen. II. Lythrum L.</b>       |                                    |                               |         |          |                                 |
| 1. <i>L. Salicaria L.</i> . . .  | <i>Loosestrife Purple L.</i> . . . | River-sides, marshes          | Pu.     | 2-5 ft.  | P. 7-9                          |
| 2. <i>L. Hyssopifolia L.</i> . . | <i>Hyssop-leaved L.</i>            | Moist pl. R.                  | Pk.     | 4-12 in. | A. 6-9                          |

## ORD. XXXII.—EPILOBIACEÆ.

|   |                               |   |           |           |           |
|---|-------------------------------|---|-----------|-----------|-----------|
| <b>Gen. I. Epilobium L.</b>                                       | <i>Willow Herb</i>            |   |           |           |           |
| 1. <i>E. angustifolium L.</i>                                     | <i>Rose-bay W.</i> . . .      | Woods, rail-way banks, mt. cliffs, etc. | Ro. Pu.   | 3-6 ft.   | P. 7-8    |
| <i>b. brachycarpum (Leight.)</i>                                  | . . . . .                     | Wa. pl., etc.                           | . . . . . | . . . . . | . . . . . |
| 2. <i>E. hirsutum L.</i> . . .                                    | <i>Hairy W.</i> . . .         | Stream sides, wat. pl.                  | Ro.       | 3-5 ft.   | P. 7-8    |
| 3. <i>E. parviflorum Schreb.</i>                                  | <i>Hoary W.</i> . . .         | Wat. pl. . . .                          | Ro. Pu.   | 1-2 ft.   | P. 7-8    |
| 4. <i>E. tetragonum L.</i> . .                                    | <i>Square-stalked W.</i>      | Wat. pl. ditches                        | p. Ro.    | 1-3 ft.   | P. 7-8    |
| <i>b. Lamyi (Schultz)</i> . . .                                   | . . . . .                     | Wo. roadsides                           | . . . . . | . . . . . | . . . . . |
| <i>c. obscurum (Schreb.)</i>                                      | . . . . .                     | Damp pl. . . .                          | . . . . . | . . . . . | . . . . . |
| 5. <i>E. roseum Schreb.</i> . .                                   | <i>Pale W.</i> . . . .        | Brooksides, w. pl. etc.                 | p. Ro.    | 9-24 in.  | P. 7-8    |
| 6. <i>E. lanceolatum Sch. &amp; Maur.</i>                         | <i>Spear-leaved W.</i>        | Dry sto. pl. L.                         | p. Ro.    | 9-24 in.  | P. 7-9    |
| 7. <i>E. montanum L.</i> . .                                      | <i>Broad smooth-leaved W.</i> | Woods, etc. . .                         | p. Pu.    | 6-24 in.  | P. 6-7    |
| 8. <i>E. alsinifolium Vill.</i>                                   | <i>Mt. W.</i> . . . .         | Alpine rills . .                        | ro. Pu.   | 4-12 in.  | P. 7-8    |
| 9. <i>E. anagallidifolium Lam.</i><br>( <i>E. alpinum Huds.</i> ) | <i>Alp. W.</i> . . . .        | Alpine rills . .                        | p. Ro.    | 2-4 in.   | P. 7-8    |
| 10. <i>E. palustre L.</i> . . .                                   | <i>Marsh W.</i> . . .         | Bogs . . . .                            | ro. Li.   | 6-18 in.  | P. 7-8    |

A large number of hybrids occur in this genus; therefore many plants will furnish mixed characters. See Haussknecht's *Monograph*.

|                                   |           |                             |    |          |        |
|-----------------------------------|-----------|-----------------------------|----|----------|--------|
| <b>Gen. II. Ludwigia L.</b>       |           |                             |    |          |        |
| 1. <i>L. palustris Ell.</i> . . . | . . . . . | Peaty str. and pools. V. R. | G. | 6-10 in. | P. 6-7 |

## ORD. XXXI.—LYTHRACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Peplis.**

1. Ls. opp. ob.-ov.—Fl. sol. axill. ; pet. often absent—St. long, prost., creeping.

**Gen. II. Lythrum.**

1. Ls. opp., lanc. cord.—Fl. showy in whorled spikes—St. erect.
2. Ls. alt., lin. lanc.—Fl. sol. axill.—St. generally proc.

## ORD. XXXII.—EPILOBIACEÆ or ONAGRACEÆ.

**Gen. I. Epilobium.**

1. St. round, erect—Ls. ellip. lanc., alt.—Fl. somewhat irreg. in long terminal leafless rac.—Pet. spreading from base, mostly ent.  
*b. Fr. short, spreading—Ls. broader at base.*
2. St. branched, cylind.—Ls. obl. lanc., opp. hairy, amplex.—Rt. cr.—Fl. lge. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.).
3. St. nearly simp. and cylind.—Ls. lanc. alt., lower stalked—Rt. fibr.
4. St. square—Ls. strap-shaped, sess. toothed, shining above—Stig. ent.  
*b. Ls. glauc. lanc. acute, slightly rounded at base, usually stalked.*  
*c. Ls. tapering from rounded base, ov. lanc. opp., not shining above.*
5. St. obscurely 4 angled—Ls. ellip. lanc. toothed, stalked, glab.—Veins prom.—Stig. ent.
6. St. obscurely angled pubesc.—Ls. obl. lanc., toothed, alt., stalked, lower pairs pendulous—Stig. 4 cleft.
7. St. slend.—Ls. ov. toothed, stalked, opp. glab.—Stig. 4 cleft.
8. St. tufted, ascending—Ls. ov. acute, stalked, toothed, glab.—Rt. cr.
9. St. decumb. at base—Ls. ellip. lanc. obt. ent., usually tinged with red.
10. St. round—Ls. sess. lanc. with wedge-shaped base—Chiefly lowland.

**Gen. II. Ludwigia = Isnardia.**

1. St. glab. square, proc. or floating, rooting at joints—Ls. opp., or acute—Fl. minute, sess. axill.—Plant usually reddish in colour—New Forest.

ORD. XXXII.—EPILOBIACEÆ or ONAGRACEÆ (*continued*).

| Botanical Name.                              | Common Name.            | Soil or Situation.     | Colour. | Growth. | Duration and time of flowering. |
|--|-------------------------|------------------------|---------|---------|---------------------------------|
| <b>Gen. III. <i>Ænothera</i> L.</b>          | <i>Evening Primrose</i> |                        |         |         |                                 |
| * <sub>1</sub> . <i>Æ. biennis</i> L. . . .  | <i>Common E.</i> . . .  | W. pl. coast, etc.     | Y.      | 2-3 ft. | B. 7-9                          |
| <i>b. Lamarkiana</i> (Ser.)                  | . . . .                 | W. pl. . . .           | Y.      | 2-4 ft. | B. 7-9                          |
| * <sub>2</sub> . <i>Æ. odorata</i> Jacq. . . | . . . .                 | Sandy gr. Jersey, etc. | Dp. Y.  | 2-3 ft. | B. 7-9                          |

*E. ammophila* Focke is naturalized on the Somerset coast, and other species occur as casuals.

|                                  |                               |                  |        |          |        |
|----------------------------------|-------------------------------|------------------|--------|----------|--------|
| <b>Gen. IV. <i>Circæa</i> L.</b> | <i>Enchanter's Nightshade</i> |                  |        |          |        |
| 1. <i>C. lutetiana</i> L. . . .  | <i>Common E.</i> . . .        | Woods . . .      | pk. W. | 1-2 ft.  | P. 6-8 |
| 2. <i>C. alpina</i> L. . . .     | <i>Alpine E.</i> . . .        | Shady pl. N. Br. | pk. W. | 6-18 in. | P. 6-8 |

## ORD. XXXIII.—CUCURBITACEÆ.

|                                  |                       |              |     |      |        |
|----------------------------------|-----------------------|--------------|-----|------|--------|
| <b>Gen. I. <i>Bryonia</i> L.</b> | <i>Bryony.</i>        |              |     |      |        |
| 1. <i>B. dioica</i> Jacq. . . .  | <i>White Bryony</i> . | Hedges . . . | gW. | Cli. | P. 5-9 |

## ORD. XXXIV.—UMBELLIFERÆ.

|   |                        |                     |        |          |        |
|---|------------------------|---------------------|--------|----------|--------|
| <b>Gen. I. <i>Hydrocotyle</i> L.</b>      | <i>Pennywort</i>       |                     |        |          |        |
| 1. <i>H. vulgaris</i> L. . . .            | <i>Marsh P.</i> . . .  | Bogs and marshy pl. | W.     | Cr.      | P. 5-8 |
| <b>Gen. II. <i>Eryngium</i> L.</b>        | <i>Eryngo</i>          |                     |        |          |        |
| 1. <i>E. campestre</i> L. . . .           | <i>Field E.</i> . . .  | W. pl. V. R.        | bW.    | 1-2 ft.  | B. 7-8 |
| 2. <i>E. maritimum</i> L. . .             | <i>Sea Holly</i> . . . | Sandy coast .       | bW.    | 1-2 ft.  | B. 7-8 |
| <b>Gen. III. <i>Astrantia</i> L.</b>      |                        |                     |        |          |        |
| * <sub>1</sub> . <i>A. major</i> L. . . . | . . . .                | Woods, Salop V. R.  | pk. W. | 1-3 ft.  | P. 6-8 |
| <b>Gen. IV. <i>Sanicula</i> L.</b>        | <i>Sanicle</i>         |                     |        |          |        |
| 1. <i>S. europæa</i> L. . . .             | <i>Wood S.</i> . . .   | Woods . . .         | pk. W. | 9-24 in. | P. 6-7 |



ORD. XXXII.—EPILOBIACEÆ or ONAGRACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. III. Enothera.**

\*1. Ls. obl. lanc., caps. obl. subcyl.—Fl. lge.  $2\frac{1}{2}$ –3 in.—Sta. as long as sty.

*b. Rt. ls. more pointed—Sty. longer than sta.—Fl.  $2\frac{1}{4}$ –4 in.—Caps. less hairy.*

\*2 Ls. lin. lanc. waved—Caps. clavate elong. cyl.—Fl. 3 in. changing to dull or red.

**Gen. IV. Cirœa.**

1. St. erect—Ls. ov. slightly toothed, downy—Bract o.

2. Smaller and stouter than 1—Ls. cord. dent. shining—Ped. with sm. subu. bract.

## ORD. XXXIII.—CUCURBITACEÆ.

**Gen. I. Bryonia.**

1. St. climbing—Tendrils simple—Ls. palm.—Fl. in short axill. rac.—Berries red.

## ORD. XXXIV.—UMBELLIFERÆ.

**Gen. I. Hydrocotyle.**

1. Pl. prostr. cr.—Ls. pelt. cren. shining—Umbels sm. 5 flowered.

**Gen. II. Eryngium.**

1. Rad. ls. tern., lobes pinnfid., spiny, pale green—Cauline ls. bi-pinnfid.

2. Rad. ls. suborbic. plaited coriaceous, spiny, intensely glaucous—Cauline ls. palm.

**Gen. III. Aстранtia.**

\*1. Rad. ls. palmate, 5–7 partite; lobes ov.-lanc. serr.—Invol. straw colour.

**Gen. IV. Sanicula.**

1. St. simple—Ls. all radical, palm. glab.—Fl. sess.

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

| Botanical Name.   | Common Name.  | Soil<br>or<br>Situation.                               | Colour.   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---|--|-----------|-----------|--|
| <b>Gen. V. Danaa</b> <i>All.</i>  |   |  |           |           |  |
| 1. <i>D. cornubiense</i> <i>Burn.</i><br>( <i>Physospermum</i> com-<br>mutatum) | <i>Bladder Seed</i> .                                   | Woods. V. L.   | W.        | 1-3 ft.   | P. 7-8                                   |
| <b>Gen. VI. Conium</b> <i>L.</i>  |   |  |           |           |  |
| 1. <i>C. maculatum</i> <i>L.</i> .  | <i>Hemlock</i> . . .                                    | Hedges and<br>woods                                    | W.        | 3-8 ft.   | B. 6-7                                   |
| <b>Gen. VII. Smyrnum</b> <i>L.</i>  |   |  |           |           |  |
| 1. <i>S. Olusatrum</i> <i>L.</i> .  | <i>Alexanders</i> . .                                   | W. pl. chiefly<br>nr. coast                            | y.<br>Gr. | 3-4 ft.   | B. 4-6                                   |
| <b>Gen. VIII. Bupleurum</b> <i>L.</i>   |   |  |           |           |  |
| 1. <i>B. falcatum</i> <i>L.</i> . .   | <i>Hare's-ear</i><br><i>Falcate-leaved</i><br><i>H.</i> | Roadsides,<br>Essex                                    | Y.        | 2-4 ft.   | P. 8-9                                   |
| 2. <i>B. rotundifolium</i> <i>L.</i>  | <i>Common H.</i> .                                      | Cult. gr. and<br>w. pl.                                | Y.        | 6-24 in.  | A. 6-7                                   |
| 3. <i>B. aristatum</i> <i>Bartl.</i>  | <i>Small H.</i> . .                                     | Short turf, nr.<br>sea and dry pl.<br>in Ch. Isles. R. | Y.        | 1-6 in.   | A. 6-7                                   |
| 4. <i>B. tenuissimum</i> <i>L.</i> .  | <i>Slender H.</i> .                                     | Salt marshes<br>L.                                     | Y.        | 6-12 in.  | A. 7-9                                   |
| <b>Gen. IX. Trinia</b> <i>Hoffm.</i>  |   |  |           |           |  |
| 1. <i>T. glauca</i> <i>Dum.</i> . .<br>( <i>T. vulgaris</i> <i>DC.</i> )        | <i>Honewort</i> . .                                     | Calc. roc. R.  | W.        | 3-6 in.   | P. 5-6                                   |
| <b>Gen. X. Apium</b> <i>L.</i>  |   |  |           |           |  |
| 1. <i>A. graveolens</i> <i>L.</i> .   | <i>Wild Celery</i> .                                    | Wet pl. . .  | gW.       | 1-3 ft.   | P. 6-8                                   |
| 2. <i>A. nodiflorum</i> <i>R.f.</i> .   | <i>Marsh Wort</i> .                                     | Wat. pl. . .   | W.        | 1-3 ft.   | P. 7-8                                   |
| <i>b. repens</i> ( <i>L.</i> ) . . .  | <i>Creeping M.</i> .                                    | Muddy pl. R.   | W.        | 6-12 in.  | P. 7-8                                   |
| <i>c. ochreatum</i> ( <i>DC.</i> )  | . . . . .   | . . . . .  | . . . . . | . . . . . | . . . . .                                |
| 3. <i>A. inundatum</i> <i>R.f.</i> .  | <i>Least M.</i> . .                                     | Pools, etc. .  | W.        | Flo.      | P. 6-7                                   |
| <i>b. Moorei</i> ( <i>Syme</i> ).<br>(? × 2 × 3)                                | . . . . .   | Str., canals R.  | . . . . . | . . . . . | . . . . .                                |
| <b>Gen. XI. Cicuta</b> <i>L.</i>  |   |  |           |           |  |
| 1. <i>C. virosa</i> <i>L.</i> . . .   | <i>Cow-bane</i> . .                                     | Peaty pools. R.  | W.        | 2-4 ft.   | P. 7-8                                   |
| <b>Gen. XII. Carum</b> <i>L.</i>  |   |  |           |           |  |
| 1. <i>C. Carvi</i> <i>L.</i> . . .  | <i>Carraway</i> . .                                     | Fields and w.<br>pl.                                   | W.        | 1-2 ft.   | B. 6-7                                   |
| 2. <i>C. verticillatum</i> <i>L.</i> .  | . . . . .   | Past. chiefly<br>in W. of B.                           | W.        | 1-2 ft.   | P. 7-8                                   |

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. V. Danaa** = *Physospermum*.

1. St. erect, panicled above—Umbels long stalked—Rad. ls. tritern., lft. cuneate (suggesting those of *Aquilegia*)—Seeds free—Bucks and Cornw.

**Gen. VI. Conium.**

1. St. glab. spotted with purp.—Part. invol. 3 leaved, unilat.—Ls. glab., each segm. tipped with minute white point—Ridge of fr. crenate—Odour of fr. mousy.

**Gen. VII. Smyrnium.**

1. St. terete, stout—Rad. ls. yell. gr. with sheathing peti.—Umb. dense, rounded—Fr. black.

**Gen. VIII. Bupleurum.**

1. Lower ls. ellip. long stalked, upper lin. recurved—Bract 5, lanc.
2. Ls. oval, acute, perfoliate—Bract oval, leafy, connate.
3. Ls. lanc. striate, rigid, forked or simp.—Umb. terminal—Bract lanc., cusp.—Pl. erect, rigid—Fr. smooth.
4. Ls. lin. lanc.—Umb. term. and axill. sess., very small—Bract subu.—Pl. prost. or erect, flexuous.

**Gen. IX. Trinia** = *Apinella Neck.*

1. Rootstock woody, with bristly remains of old ls.—Lfts. filiform, glauc.—Fl. diœcious.

**Gen. X. Apium.**

1. St. furrowed, erect—Lft. of rad. ls. round, lobed, those of upper cuneately notched—Umbels sess. or shortly stalked.
2. St. proc. and rooting at base—Ls. pinn., lft. ov. lanc., bluntly serr.—Umb. subsess. opposite ls.
  - b. Smaller, creeping—Lft. 9-11—Umb. long stalked—Invol. 3-7 bracts.*
  - c. Rooting at most of the nodes—Lft. 5-7—Umb. stalked—Invol. 0 or 1-2.*
3. St. cr. or submerged—Lower ls. capillaceo-multifid.—Umbel mostly 2 rayed.
  - b. Lower ls. with broader lin. or strap-shaped lfts.—Invol. 5-7 rayed.*

**Gen. XI. Cicuta.**

1. Root fibr.—Stem furrowed, hollow—Ls. large, elegant, rad. pinn.; lft. lanc., doubly serr. decurr.—Umbel large, flat.

**Gen. XII. Carum.**

1. St. branched—Rt. fusiform—Ls. narrow triang., bipinn., lft. with lin. segm.
2. St. erect, slightly branched—Rt. fascicled—Ls. narrow; lft. whorled; seg. capill.



ORD. XXXIV.—UMBELLIFERÆ (*continued*).

| Botanical Name.  | Common Name.                                     | Soil<br>or<br>Situation.                 | Colour.   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--|--|-----------|-----------|--|
| <b>Gen. XII. Carum L.</b><br>( <i>continued</i> ).                                       |  |  |           |           |  |
| *3. <i>C. Petroselinum B.</i><br>and <i>H.</i><br>( <i>Petroselinum sativum Hoffm.</i> ) | <i>Parsley</i> . . .                             | Banks, walls,<br>etc. R.                 | Y.        | 9-18 in.  | B. 6-8                                   |
| 4. <i>C. segetum Benth.</i> .  | <i>Corn P.</i> . . .                             | Hedgebanks,<br>etc.                      | W.        | 1-3 ft.   | A. or B.<br>8-9                          |
| 5. <i>C. Bulbocastanum Koch</i>  | <i>Great Earth-nut</i>                           | Cult. gr. R. .                           | W.        | 1-2 ft.   | P. 6-7                                   |
| <b>Gen. XIII. Sison L.</b>   |  |  |           |           |  |
| 1. <i>S. Amomum L.</i> . .   | <i>Stonewort</i> . .                             | Ditches and<br>waysides on<br>grav. soil | W.        | 2-3 ft.   | B. 7-9                                   |
| <b>Gen. XIV. Falcaria</b><br><i>Host.</i>  |  |  |           |           |  |
| *1. <i>F. vulgaris Bernh.</i>  | . . . . .  | Fie. & w.pl. R.                          | W.        | 1-2 ft.   | P. 7-8                                   |
| <b>Gen. XV. Sium L.</b>  |  |  |           |           |  |
| 1. <i>S. latifolium L.</i> . .   | <i>Water Parsnip</i>                             | Riverside. L.                            | W.        | 3-4 ft.   | P. 7-8                                   |
| 2. <i>S. erectum Huds.</i> .   | „ „  | Ditches, etc.                            | W.        | 1-3 ft.   | P. 7-8                                   |
| <b>Gen. XVI. Ægopodium L.</b>  |  |  |           |           |  |
| 1. <i>Æ. Podagraria L.</i> .   | <i>Gout Weed</i> . .                             | Shaded pl.,<br>w. pl.                    | W.        | 1-2 ft.   | P. 6-8                                   |
| <b>Gen. XVII. Pimpinella L.</b>  |  |  |           |           |  |
| 1. <i>P. major Huds.</i> . .   | <i>Burnet Saxifrage</i><br><i>Large B.</i> . . . | Woods and<br>bushy pl.                   | W.        | 2-4 ft.   | 7-9                                      |
| <i>b. dissecta Druce</i> .   | . . . . .  | . . . . .                                | . . . . . | . . . . . | . . . . .                                |
| <i>c. rosea Druce</i> . .  | . . . . .  | . . . . .                                | Ro.       | . . . . . | . . . . .                                |
| 2. <i>P. Saxifraga L.</i> . .  | <i>Small B.</i> . . .                            | Dry past. and<br>calc. soils             | W.        | 1-2 ft.   | 7-9                                      |
| <i>b. dissecta With.</i> .   | . . . . .  | . . . . .                                | . . . . . | . . . . . | . . . . .                                |
| <i>c. poteriiifolia Wallr.</i>   | . . . . .  | . . . . .                                | . . . . . | . . . . . | . . . . .                                |
| <b>Gen XVIII. Conopodium Koch</b>  |  |  |           |           |  |
| 1. <i>C. majus Loret.</i> . .  | <i>Pignut</i> . . .                              | Past. and wo.                            | W.        | 1-3 ft.   | P. 5-6                                   |
| ( <i>Bunium flexuosum With.</i> )  |  |  |           |           |  |
| <b>Gen. XIX. Myrrhis Scop.</b>   |  |  |           |           |  |
| 1. <i>M. Odorata Scop.</i> .   | <i>Sweet Cicely</i> .                            | Pastures in<br>the north                 | W.        | 2-3 ft.   | P. 5-6                                   |

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XII. Carum** (*continued*).

- \*<sub>3</sub>. Ls. delt. bipinn. shining, aromatic—Seg. of lower ls. trifid.
- 4. Ls. pinn., lower lfts. sess., lobed—Umbel drooping, irreg. small.
- 5. St. erect, much branched—Root tuberous—Ls. broadly triang.—Lft. lin. not whorled.

**Gen. XIII. Sison.**

- 1. Lower ls. pinn., lft. obl. serr.—Umbel irreg.—The lower ls. are larger and more coarsely cut than *Carum segetum*, which it resembles.

**Gen. XIV. Falcaria = Prionitis** *Adans.*

- \*<sub>1</sub>. Ls. tern., upper ls. cut into lin. lanc. segm. equally serr. spinulous mucro.

**Gen. XV. Sium.**

- 1. Lft. obl.-lanc. equally serr.—Umbel term.—Sty. filiform.
- 2. Lft. all ovate, roughly serr.—Umbel lateral—Sty. enlarged at base.

**Gen. XVI. Ægopodium.**

- 1. St. grooved, fistular—Ls. bi., or tri.—Tern.; lft. sharply serr., ov. acum.—Root creeping extensively.

**Gen. XVII. Pimpinella.**

- 1. St. angular striate—Lft. all ovate, serr. term., one 3 lobed—Rad. lft. petioled.
  - b. Lft. all cut into long lin. segm.*
  - c. Flowers rose coloured.*
- 2. St. terete—Lft. variable, those of upper ls. with lin. seg.—Rad. lft. sess.
  - b. All ls. finely cut.*
  - c. Rad. ls. pinn., lft. ov. roundish at base, ent. inciso-serr.*

**Gen. XVIII. Conopodium.**

- 1. Root tuberous—St. slender, flexuous, leafless at base—Ls. pinnfid.; seg. lin.

**Gen. XIX. Myrrhis.**

- 1. St. stout—Ls. large tripinn. whitish beneath, often blotched above—Invol. bract. lanc. acum.—Fruits 1 in. long—Plant very aromatic.

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil<br>or<br>Situation.                 | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|--|---------|----------|--|
| <b>Gen XX. Chærophyl-<br/>lum L.</b>   |                          |  |         |          |  |
| 1. <i>C. temulum L.</i> . .<br>( <i>C. aureum</i> and <i>C. aroma-<br/>ticum</i> have been found<br>as Casuals.) | <i>Rough Chervil.</i>    | Hedges . .                               | W.      | 1-4 ft.  | B. 6-7                                   |
| <b>Gen. XXI. Scandix L.</b>  |                          |  |         |          |  |
| 1. <i>S. Pecten-veneris L.</i>   | <i>Shepherd's Needle</i> | Cult. gr. . .                            | W.      | 4-16 in. | A. 6-9                                   |
| <b>Gen. XXII. Anthris-<br/>cus Bernh.=Cere-<br/>folium Hall.</b>   |                          |  |         |          |  |
| 1. <i>A. sylvestris Hoffm.</i><br>( <i>Chærophyl-<br/>lum sylvestre</i> )  | <i>Keck</i> . . . .      | Hedges and<br>shaded pl.                 | W.      | 1-4 ft.  | P. 4-6                                   |
| 2. <i>A. Scandix Beck.</i> .   | <i>Beaked Parsley</i>    | Sunny pl. on<br>dry soil                 | W.      | ½-3 ft.  | B. 5-6                                   |
| *3. <i>A. Cerefolium Hoffm.</i><br>( <i>Chæroph. sativum Lam.</i> )  | <i>Chervil</i> . . .     | Waysides .                               | W.      | 1-1½ ft. | A. 5-7                                   |
| <b>Gen. XXIII. Seseli L.</b>   |                          |  |         |          |  |
| 1. <i>S. Libanotis Koch</i> .  | . . . .                  | Chalk past. R.                           | W.      | 4-30 in. | P. 7-8                                   |
| <b>Gen. XXIV. Fœniculum<br/>Hill</b>   |                          |  |         |          |  |
| 1. <i>F. vulgare Mill</i> . .  | <i>Fennel</i> . . .      | Sea cliffs, etc.                         | Y.      | 3-5 ft.  | P. 7-8                                   |
| <b>Gen. XXV. Crithmum L.</b>   |                          |  |         |          |  |
| 1. <i>C. maritimum L.</i> .  | <i>Samphire</i> . .      | Sea cliffs . .                           | W.      | 6-12 in. | P. 5-8                                   |
| <b>Gen. XXVI. Cœnanthe L.</b>  |                          |  |         |          |  |
| 1. <i>CE. aquatica Poir.</i> .<br>( <i>CE. Phellandrium Lam.</i> )   | <i>Water Dropwort</i>    | Ditches and<br>pools in peaty<br>pl.     | W.      | 1-4 ft.  | B. 7-9                                   |
| 2. <i>CE. fluviatilis Colem.</i>   | <i>River</i> „           | Streams . .                              | W.      | 1-4 ft.  | B. 7-9                                   |
| 3. <i>CE. crocata L.</i> . .   | <i>Hemlock W.</i> .      | Marshy pl. .                             | W.      | 2-5 ft.  | P. 7-8                                   |
| 4. <i>CE. pimpinelloides L.</i>  | . . . .                  | Marshes. L.<br>chiefly in S.<br>W. of E. | W.      | 1-3 ft.  | P. 6-8                                   |
| 5. <i>CE. silaifolia Bieb.</i> .   | <i>Sulphur Wort</i> .    | Pastures and<br>wet mea. L.              | W.      | 1-3 ft.  | P. 6-7                                   |
| 6. <i>CE. Lachenalii Gmel.</i>   | <i>Parsley W.</i> . .    | Salt marshes                             | W.      | 1-4 ft.  | P. 6-8                                   |
| 7. <i>CE. fistulosa L.</i> . .   | <i>Water Dropwort</i>    | Wat. pl. . .                             | W.      | 1-3 ft.  | P. 7-9                                   |



ORD. XXXIV.—UMBELLIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XX. Chærophyllum.**

1. Joints of st. swollen—St. spotted, with deflexed hairs—Lft. bipinn. ov. ent.; seg. obt. mucro.

**Gen. XXI. Scandix.**

1. St. erect—Lft. many-partite; seg. lin. light gr.—Bract long, ent. or bifid.—Fr. 1-2 in. long.

**Gen. XXII. Anthriscus=Cerefolium.**

1. Umbel term. stalked—Fr. lin. glab.—Beak short.
2. Umbel lat. stalked—Fr. ov. hispid.—*Chær. Anthriscus* = *A. vulgaris*.
- \*3. Umbel lat. sess.—Fr. lin. glab.—Beak long.

**Gen. XXIII. Seseli.**

1. Ls. sess. hairy, lft. ent., seg. lanc. mucro.—Invol. bracts many—Umbel hemispherical—Camb., Sussex.

**Gen. XXIV. Fœniculum.**

1. Ls. dk. gr. capill., flaccid; upper ones long—Fl. yellow.

**Gen. XXV. Crithmum.**

1. Lft. fleshy, sharp pointed, lax—Invol. of many lanc. ls.—Pl. arom.

**Gen. XXVI. Œnanthe.**

1. Aquatic—St. erect—Segm. of submerged ls. with multifid diverging segm.—Fr. twice as long as sty.
2. Aquatic—St. floating—Segm. of submerged ls. with parallel segm.—Fr. 3 times as long as sty.
3. Root of lge. fusiform tubers—Lft. stalked cun., variously cut, upper narrower—Fr. ent. obl. cylind.—Stem much branched—Pl. strong and coarse.
4. Root fibres tuberous—Rad. ls. bipinn.—Upper ls. lin. ent.—Invol. many leaved lin.—Fr. sub-cylind. with an enlarged corky base, rounded at top.
5. Root of ellip. obl. knobs—Lft. all lin. acute—Gen. invol. o.—Fr. sub-cylind., slightly narrowed downwards.
6. Root fibres fleshy—Lft. of lower ls. obl. ent., bluntly lobed; upper lft. lin., acute—Fr.  $\frac{1}{10}$  in. long, shortly obov.-ovoid, rounded and contracted at top.
7. Root stoloniferous—St. ls. pinn., fili., fistulous—Invol. o.

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

| Botanical Name.   | Common Name.                  | Soil<br>or<br>Situation.        | Colour.                              | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------------|---------------------------------|--------------------------------------|----------|--|
| <b>Gen. XXVII. <i>Æthusa</i> L.</b>                           |                               |                                 |                                      |          |  |
| 1. <i>Æ. Cynapium</i> L. . .                                  | <i>Fool's Parsley</i> .       | Cult. gr. . .                   | W.                                   | 6-24 in. | A. 7-8                                   |
| <i>b. agrestis</i> Wallr.                                     | . . . . .                     | Corn fie. . .                   | . .                                  | 2-6 in.  | A. 7-8                                   |
| <b>Gen. XXVIII. <i>Silaus</i></b>                             |                               |                                 |                                      |          |  |
| <i>Bernh.</i>   |                               |                                 |                                      |          |  |
| 1. <i>S. flavescens</i> Bernh.                                | <i>Pepper-Saxi-<br/>frage</i> | Meadows. .                      | <i>p.</i><br><i>gr.</i><br><i>Y.</i> | 1-3 ft.  | P. 7-9                                   |
| <b>Gen. XXIX. <i>Meum</i> Hill</b>                            |                               |                                 |                                      |          |  |
| 1. <i>M. Athamanticum</i><br><i>Jacq.</i>                     | <i>Spignel</i> . . .          | Alp. past. L. .                 | <i>yW.</i>                           | 6-18 in. | P. 6-7                                   |
| <b>Gen. XXX. <i>Ligusti-<br/>cum</i> L.</b>                   |                               |                                 |                                      |          |  |
| 1. <i>L. scoticum</i> L. . .                                  | <i>Lovage</i> . . .           | Sea cliffs in<br>North Brit. L. | <i>pk.</i><br><i>W.</i>              | 9-36 in. | P. 7-8                                   |
| <b>Gen. XXXI. <i>Selinum</i> L.</b>                           |                               |                                 |                                      |          |  |
| 1. <i>S. Carvifolia</i> L. . .                                | . . . . .                     | Marshes. R.<br>Linc. Camb.      | W.                                   | 1-3 ft.  | P. 7-8                                   |
| <b>Gen. XXXII. <i>Ange-<br/>lica</i> L.</b>                   |                               |                                 |                                      |          |  |
| 1. <i>A. sylvestris</i> L. . .                                | <i>Angelica</i> . . .         | Moi. woods,<br>etc.             | W.                                   | 2-9 ft.  | P. 7-8                                   |
| <b>Gen. XXXIII. <i>Arch-<br/>angelica</i> Hoffm.</b>          |                               |                                 |                                      |          |  |
| *1. <i>A. officinalis</i> Hoffm.                              | <i>Gard. Angelica</i>         | W. pl. . . .                    | Gr.                                  | 3-5 ft.  | P. 7-8                                   |
| <b>Gen. XXXIV. <i>Peuce-<br/>danum</i> L.</b>                 |                               |                                 |                                      |          |  |
| 1. <i>P. palustre</i> Moench                                  | <i>Milk Parsley</i> .         | Marshes. R. .                   | W.                                   | 3-5 ft.  | P. 7-8                                   |
| 2. <i>P. officinale</i> L. . .                                | <i>Hog's Fennel</i> .         | Marit. marsh.<br>and cliffs. R. | Y.                                   | 2-3 ft.  | P. 7-9                                   |
| 3. <i>P. sativum</i> B. & H.<br>( <i>Pastinaca sativa</i> L.) | <i>Wild Parsnip</i> .         | Roadsides .                     | Y.                                   | 2-4 ft.  | B. 7-8                                   |
| 4. <i>P. Ostruthium</i> Koch                                  | <i>Masterwort</i> . .         | Moist mead.<br>N. of Br. R.     | W.                                   | 2-3 ft.  | P. 6-7                                   |
| <b>Gen. XXXV. <i>Hera-<br/>cleum</i> L.</b>                   |                               |                                 |                                      |          |  |
| 1. <i>H. Sphondylium</i> L.                                   | <i>Hogweed</i> . . .          | Hedges and<br>w. pl.            | W.                                   | 4-5 ft.  | B. 7-8                                   |
| <i>b. angustifolium</i><br><i>Huds.</i>                       | . . . . .                     | . . . . .                       | . .                                  | . .      | . .                                      |

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXVII. Æthusa.**

1. St. branched, leafy—Lft. cun., lanc. decurr.—Invol. bract 3, long, pendulous.  
*b. A dwarf plant with invol. reduced in size or o.*

**Gen. XXVIII. Silaus.**

1. Lft. opp. lin.-lanc., ent. or 3 lobed—Invol. of 1-2 seg.—Ls. mostly radical.

**Gen. XXIX. Meum.**

1. Lfts. finely multi-part. dark green—Segm. bristle-shaped, aromatic.

**Gen. XXX. Ligusticum.**

1. Ls. mostly radical, dull gr.—Lft. sub-rhomboid, dent. serr.—Invol. of 5-7 ls.—Seed free.

**Gen. XXXI. Selinum.**

1. Much like *Daucus Carota*—St. furrowed—Ls. smooth, tripinn.—Lft. 3-5 partite—Seg. narrow ent.—Part. bracts many—All ridges of fr. winged.

**Gen. XXXII. Angelica.**

1. Lft. lge. equal serr.—Teeth of cal. obsolete—Umbel lge. terminal, 30-40 rays.

**Gen. XXXIII. Archangelica.**

- \*1. Ls. very large, lft. ov. lanc. sess. term. lft. trifid, bright green.

**Gen. XXXIV. Peucedanum.**

1. Ls. tripinn.; lft. pinnfid., seg. lin.-lanc.—Juice milky—Fl. white—Bracts many, persistent.
2. Ls. 5-partite—Seg. lin., flaccid—Umbel large—Fl. yell.—Bracts few.
3. Ls. ov., downy beneath, cut and serr.—Fl. yell.—Invol. bract o.
4. Ls. of 3 broad seg., each 3 in. long, often 3 lobed, gen. invol. o—Fl. wh.—Fr. nearly orbic.

**Gen. XXXV. Heracleum.**

1. Lower ls. very large—Lft. few, pinnfid. or lobed, serr., rough, hairy—Pet. unequal—Umb. lge. flattish.  
*b. Leaflets of narrow segments.*



ORD. XXXIV.—UMBELLIFERÆ (*continued*).

| Botanical Name.  | Common Name.           | Soil<br>or<br>Situation.        | Colour.                      | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|---------------------------------|------------------------------|----------|--|
| <b>Gen. XXXVI. Tordylium L.</b>                                      |                        |                                 |                              |          |  |
| *1. <i>T. maximum L.</i> . . .                                       | <i>Great Honewort</i>  | W. pl. V. R.                    | <i>pk.</i><br>W.             | 1-2 ft.  | A. 6-7                                   |
| <b>Gen. XXXVII. Coriandrum L.</b>                                    |                        |                                 |                              |          |  |
| *1. <i>C. sativum L.</i> . . .                                       | <i>Coriander</i> . .   | W. pl. R. . .                   | <i>pk.</i><br>W.             | 1-2 ft.  | A. 6-7                                   |
| <b>Gen. XXXVIII. Daucus L.</b>                                       | <i>Carrot</i>          |                                 |                              |          |  |
| 1. <i>D. Carota L.</i> . . .   | <i>Wild Carrot</i> .   | Past. etc. . .                  | W.                           | 1-2 ft.  | B. 6-8                                   |
| <i>b. gummiifer (Lam.)</i>   | <i>Sea Carrot</i> . .  | Sea cliffs. L.                  | W.                           | 1-2 ft.  | B. 6-8                                   |
| <b>Gen. XXXIX. Caucalis L.</b>                                       |                        |                                 |                              |          |  |
| 1. <i>C. daucoides L.</i> .  | <i>Bur Parsley</i> .   | Corn fie. and<br>w. pl. R.      | <i>pk.</i><br>W.             | 6-18 in. | A. 6-7                                   |
| 2. <i>C. Anthriscus Huds.</i><br>( <i>Torilis Anthriscus Gmel.</i> ) | <i>Hedge Parsley</i> . | Waysides .                      | W.                           | 2-3 ft.  | A. 7-9                                   |
| 3. <i>C. arvensis Huds.</i> .<br>( <i>T. infesta Spreng.</i> )       | <i>Spreading H.</i> .  | Corn fie. . .                   | W.<br>or<br><i>pk.</i><br>W. | 4-12 in. | A. 6-9                                   |
| 4. <i>C. nodosa Scop.</i> . .  | <i>Knotted H.</i> . .  | Dry sunny<br>bks. etc. cornfie. | W.                           | 6-18 in. | A. 5-7                                   |
| <i>b. pedunculata</i> . .  |                        |                                 |                              |          |  |
| *5. <i>C. latifolia L.</i> . . .                                     | <i>Great Bur P.</i> .  | W. pl. R. . .                   | Ro.                          | 6-18 in. | A. 6-7                                   |

## ORD. XXXV.—ARALIACEÆ.

|                             |                      |                       |            |        |              |
|-----------------------------|----------------------|-----------------------|------------|--------|--------------|
| <b>Gen. I. Hedera L.</b>    |                      |                       |            |        |              |
| 1. <i>H. Helix L.</i> . . . | <i>Ivy</i> . . . . . | Trees, walls,<br>etc. | <i>pg.</i> | Climb. | Sh.<br>10-11 |

## ORD. XXXVI.—CORNACEÆ.

|                                 |                       |              |                  |         |         |
|---------------------------------|-----------------------|--------------|------------------|---------|---------|
| <b>Gen. I. Cornus L.</b>        |                       |              |                  |         |         |
| 1. <i>C. sanguinea L.</i> . . . | <i>Dogwood</i> . . .  | Hedges, etc. | <i>Cm.</i><br>W. | 5-6 ft. | Sh. 6-7 |
| 2. <i>C. suecica L.</i> . . .   | <i>Dwarf Cornel</i> . | Alp. moors . | W.               | 4-8 in. | P. 6-8  |

(*C. stolonifera* and other species are planted in shrubberies, etc.)

ORD. XXXIV.—UMBELLIFERÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXXVI. Tordylium.**

- \*1. St. hispid with reflexed hairs—Lft. lanc., deeply serr.—Umb. small, crowded—Part. invol. linear.

**Gen. XXXVII Coriandrum.**

- \*1. St. fistular, slender—Ls. deltoid, bipinn. ; upper lft. lin. fleshy, lax.

**Gen. XXXVIII. Daucus.**

1. Lft. pinnfid.—Seg. acute—Central flower purple—Umbel in fruit concave.  
*b. Lft. more fleshy—Umbel in fr. convex.*

**Gen. XXXIX. Caucalis.**

1. St. furrowed, hairy at joints—Ls. bipinn.—Lft. lin. acute—Umbel trifid, branched, 3 seeded, with long glabrous hooked prickles.  
 2. St. erect—Umbel term., stalked—Invol. of sev. bracts—Fr. bristles not hooked but incurved.  
 3. St. erect but much branched—Umbel term. stalked—Invol. of one bract—Fr. scabrous with hooked bristles.  
 4. St. prost., spreading—Umbel lat. sess.—Fr. with hooked bristles.  
*b. Umbels shortly stalked.*  
 \*5. St. scabrous—Ls. pinn., lft. lanc. serr.—Umb. trifid, branches 5 seeded with scabrous hooked prickles.

## ORD. XXXV.—ARALIACEÆ.

**Gen. I. Hedera.**

1. Ls. 5-lobed, cord. variable—Fl. umbellate—Berry black.

## ORD. XXXVI.—CORNACEÆ.

**Gen. I. Cornus.**

1. Shrub—Ls. stalked—Fl. in term., dense, sm. flowered, ebracteate cymes.  
 2. Herb—Ls. sess.—Fl. in term., few-flowered umbels, surrounded with 4 white bracts.

## ORD. XXXVII.—CAPRIFOLIACEÆ.

| Botanical Name.  | Common Name.              | Soil or Situation.             | Colour. | Growth.  | Duration and time of flowering. |
|--|---------------------------|--------------------------------|---------|----------|---------------------------------|
| <b>Gen. I. Adoxa L.</b>  |                           |                                |         |          |                                 |
| 1. <i>A. Moschatellina L.</i>  | <i>Tuberous Moschatel</i> | Sha. pl. . .                   | yG.     | 3-6 in.  | P. 4-5                          |
| <b>Gen. II. Sambucus L.</b>  |                           |                                |         |          |                                 |
| 1. <i>S. nigra L.</i> . . .  | <i>Elder</i> . . . .      | Thickets, etc.                 | Cm. W.  | 8-20 ft. | T. 6-7                          |
| <i>*b. laciniata L.</i> . . .  | <i>Cut-leaved E.</i> . .  | Plantations . . .              | . . .   | . . .    | . . .                           |
| <i>c. rotundifolia Bromf.</i>  | <i>Round-leaved E.</i>    | I. of Wight . . .              | . . .   | . . .    | . . .                           |
| 2. <i>S. Ebulus L.</i> . . .   | <i>Danewort</i> . . .     | W. pl. L. . .                  | pu. W.  | 2-3 ft.  | P. 7-8                          |
| ( <i>S. racemosa L.</i> with scarlet berries is planted in shrubberies.) |                           |                                |         |          |                                 |
| <b>Gen. III. Viburnum L.</b>   |                           |                                |         |          |                                 |
| 1. <i>V. Opulus L.</i> . . .   | <i>Wild Guelder Rose</i>  | Wet woods, etc.                | W.      | 6-10 ft. | Sh. 6-7                         |
| 2. <i>V. Lantana L.</i> . . .  | <i>Wayfaring Tree</i>     | Hedges on dry calc. soil, etc. | W.      | 8-20 ft. | Sh. 5-6                         |
| <b>Gen. IV. Linnæa L.</b>  |                           |                                |         |          |                                 |
| 1. <i>L. borealis L.</i> . . .   | <i>Linnæa</i> . . . .     | Sco. heathy woods. R.          | Pk.     | 3-8 in.  | P. 7-8<br>*                     |
| <b>Gen. V. Lonicera L.</b>   | <i>Honeysuckle</i>        |                                |         |          |                                 |
| 1. <i>L. Caprifolium L.</i> . .  | <i>Perfoliate H.</i> . .  | Woods and hedges               | R.      | Cli.     | Sh. 5-6                         |
| 2. <i>L. Peri-Clymenum L.</i>  | <i>Common H.</i> . . .    | Hedges, etc.                   | Y. & R. | Cli.     | Sh. 6-9                         |
| 3. <i>L. Xylosteum L.</i> . . .  | <i>Fly H.</i> . . . .     | Plantations, etc.              | Y.      | 3-5 ft.  | Sh. 5-6                         |

## ORD. XXXVIII.—RUBIACEÆ.

|                                 |                           |                                   |       |          |        |
|---------------------------------|---------------------------|-----------------------------------|-------|----------|--------|
| <b>Gen. I. Rubia L.</b>         | <i>Madder.</i>            |                                   |       |          |        |
| 1. <i>R. peregrina L.</i> . . . | <i>Wild Madder</i> . .    | Sto. pl. nr. sea in S. & W. of E. | gY.   | 1-2 ft.  | P. 6-8 |
| <b>Gen. II. Galium L.</b>       | <i>Bedstraw</i>           |                                   |       |          |        |
| <i>*</i>                        |                           |                                   |       |          |        |
| 1. <i>G. boreale L.</i> . . . . | <i>Northern B.</i> . .    | Moi. rocky pl. in N. Brit.        | W.    | 6-24 in. | P. 6-8 |
| 2. <i>G. Mollugo L.</i> . . .   | <i>Great hedge B.</i> . . | Hedges . . .                      | W.    | 1-4 ft.  | P. 7-9 |
| <i>b. insubricum (Jord.)</i>    | . . . .                   | . . . .                           | . . . | . . .    | . . .  |
| <i>c. Bakeri (Syme).</i> . .    | . . . .                   | . . . .                           | . . . | . . .    | . . .  |



## ORD. XXXVII.—CAPRIFOLIACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Adoxa.**

1. Rad. ls. tri. tern., long-stalked ; st. ls. tern.—Fl. in a term. sub. 4-ang. head of 5 fl.

**Gen. II. Sambucus.**

1. Tree—Cymes with 5 branches—Stip. o.

*\*b. Lft. lanc. laciniate.*

*c. Lft. orbicular.*

2. Herbaceous—Cymes with 3 branches—Stip. leafy, serr.—And is quite naturalized in Scotland.

**Gen. III. Viburnum.**

1. Ls. three-lobed, acum. glab.—Fr. translucent, scarlet red.
2. Ls. ellip.-cord. serr. exstip., downy beneath—Fr. black when ripe.

**Gen. IV. Linnæa.**

1. St. creeping ; ped. erect, two-flowered—Ls. ov. opp.—Cor. campan., fragrant.

**Gen. V. Lonicera.**

1. Climbing—Fl. long in term. sess. head—Upper ls. connate, perfol.
2. Climbing—Fl. long in term. stalked heads—Ls. oval sess.
3. Erect shb.—Fl. short, axill., in pairs.

## ORD. XXXVIII.—RUBIACEÆ.

**Gen. I. Rubia.**

1. Ls. obl., 4-6 in whorl, evergreen, rough, with reflex. brist.—Fl. in term. and axill. cymes.

**Gen. II. Galium.**

*\* Perennial—St. without reflexed bristles.*

1. St. erect, rigid—Ls. four, lanc. glab., rarely pubesc.—Fr. covered with hooked bristles.
2. St. diffuse, thick at joints—Ls. eight, ob.-ov. obl. or lanc. ob.-ov. mucro., margins rough with prickles pointing forward, or erect—Fr. small, smooth—Branches of broad pan. spread.—Lower ones horiz. or deflexed.

*b. Pan. branches few-flowered—Ls. usually 6 in whorl, ob.-ov.*

*c. Ls. 6-8 in whorl, lin. strap-shaped—Pan. branches, few-flowered.*

ORD. XXXVIII.—RUBIACEÆ (*continued*).

| Botanical Name.  | Common Name.            | Soil<br>or<br>Situation.                   | Colour.    | Growth.  | Duration<br>and<br>time of<br>flowering |
|--|-------------------------|--|------------|----------|---|
| <b>Gen. II. Galium L.</b><br>( <i>continued</i> ).         |                         |  |            |          |   |
| 3. <i>G. erectum</i> Huds. .                               | <i>Upright B.</i> . .   | Downs, past.<br>etc.                       | W.         | 1-2 ft.  | P. 6-8                                  |
| <i>b. aristatum</i> (Sm.) .                                |                         |  |            |          |   |
| 4. <i>G. hercynicum</i> Weig.<br>( <i>G. saxatile</i> L.)  | <i>Heath B.</i> . .     | Heathy pl. .                               | W.         | 4-8 in.  | P. 6-8                                  |
| 5. <i>G. pumilum</i> Murr.<br>( <i>G. sylvestre</i> Poll.) | <i>Mountain B.</i> .    | Calc. hills and<br>dry past. L.            | W.         | 6-10 in. | P. 6-8                                  |
| <i>b. austriacum</i> (Jacq.)                               | . . . .                 | Calc. mt. .                                | . .        | 3-6 in.  | P. 6-8                                  |
| * *  |                         |  |            |          |   |
| 6. <i>G. uliginosum</i> L. .                               | <i>Bog B.</i> . . .     | Bogs . . .                                 | W.         | 1-2 ft.  | P. 7-8                                  |
| 7. <i>G. palustre</i> L. . .                               | <i>Marsh B.</i> . .     | Marshes and<br>wat. pl.                    | W.         | 1-2 ft.  | P. 7-8                                  |
| <i>b. elongatum</i> (Presl)                                | . . . .                 | . . . .                                    | . .        | 2-4 ft.  | P. 7-8                                  |
| <i>c. Witheringii</i> (Sm.)                                | . . . .                 | . . . .                                    | . .        | 1-2 ft.  | P. 7-8                                  |
| * * *  |                         |  |            |          |   |
| 8. <i>G. verum</i> L. . . .                                | <i>Lady's B.</i> . .    | Past., downs,<br>etc.                      | Y.         | 1-2 ft.  | P. 6-9                                  |
| <i>× ochrolencum</i> . .                                   | . . . .                 | . . . .                                    | <i>Cm.</i> | . .      | . .                                     |
| <i>b. maritimum</i> DC. .                                  | . . . .                 | Sand dunes .                               | Y.         | 3-6 in.  | P.                                      |
| * * * *  |                         |  |            |          |   |
| 9. <i>G. tricornis</i> Stokes .                            | <i>Rough-fruited B.</i> | Cult. calc.<br>fields                      | W.         | 4-12 in. | A. 6-9                                  |
| 10. <i>G. Vaillantii</i> DC. .                             | . . . .                 | Cult. fields.<br>V. R.                     | pk.        | 1-3 ft.  | . .                                     |
| 11. <i>G. Aparine</i> L. . .                               | <i>Cleavers</i> . . .   | Hedges, etc.                               | W.         | 1-5 ft.  | A. 6-9                                  |
| 12. <i>G. anglicum</i> L. . .                              | <i>Wall B.</i> . . .    | Walls and dry<br>pl. R. S. and<br>E. of E. | W.         | 6-12 in. | A. 6-7                                  |
| * * * * *  |                         |  |            |          |   |
| 13. <i>G. Cruciata</i> Scop. .                             | <i>Crosswort</i> . .    | Hedge sides,<br>etc.                       | Y.         | 6-18 in. | P. 4-6                                  |
| <b>Gen. III. Asperula L.</b>                               |                         |  |            |          |   |
| 1. <i>A. odorata</i> L. . . .                              | <i>Woodruff</i> . .     | Woods . .                                  | W.         | 1-2 ft.  | P. 5-6                                  |
| *2. <i>A. taurina</i> L. . . .                             | . . . .                 | Shrubberies,<br>etc.                       | pk.<br>W.  | 6-24 in. | 5-6                                     |
| 3. <i>A. cynanchica</i> L. .                               | <i>Squinancy Wort</i>   | Chalk downs<br>and calc. past.             | Pk.        | 6-10 in. | P. 6-7                                  |
| *4. <i>A. arvensis</i> L. . .                              | . . . .                 | W. pl. . . .                               | B.         | 3-12 in. | A. 7-8                                  |
| <b>Gen. IV. Sherardia L.</b>                               |                         |  |            |          |   |
| 1. <i>S. arvensis</i> L. . . .                             | <i>Field Madder</i> .   | Cult. gr. . .                              | Li.        | 4-12 in. | A. 4-10                                 |
| <i>b. maritima</i> Griseb.                                 | . . . .                 | . . . .                                    | . .        | . .      | . .                                     |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Galium* (*continued*).

3. St. erect—Ls. 6-8 in whorl, lin. lanc.—Pan. with slender, erect branches—Fr. smooth.  
*b. Ls. longer, very narrow, 6 in whorl.*
4. St. prost., tufted—Ls. 6, ob.-ov., mucro., smooth—Fr. stalks erect—Fr. granulated.
5. St. diffuse—Ls. 7-8, in whorl cili.—Pan. corymbose attenuate at top—Fr. dk. br. minutely granulated.  
*b. Ls. lin.-lanc. 6-7 in whorl—Pan. corymb. rounded at top—Fr. grey br. tubercled.*  
*\* \* Perennial—Stem with reflexed bristles.*
6. St. slender, weak—Ls. 6-8 in whorl, lin. lanc. mucro., rigid, rough—Fr. on erect stalks, granulate.
7. St. diffuse—Ls. 4-6 in whorl, obl.-lanc., obt., slightly cili.—Fr. on spreading stalks, smooth.  
*b. St. thick, very long, less branched, smooth; ls. longer.*  
*c. St. rough with recurved prickles; ls. lin. recurved—Cyme narrow, and closer.*  
*\* \* \* Fl. yell., perennial.*
8. Ls. eight, lin.—Fl. term. and axill. in dense panicles.  
*× A hybrid of 2 and 8—Fl. larger, cream-col., ls. broader.*  
*b. Pl. prost., ls. small, pan. few-flowered.*  
*\* \* \* \* Annuals.*
9. St. procumb.—Ls. 6-8 in whorl, lin. lanc., rough with reflexed prickles—Cyme 3-fld. on axill. pedi., shorter than ls.—Fr. large whitish—Pedi. recurved after flowering.
10. St. diffuse—Ls. 6-8 in whorl, lin. strap-shaped—Fr. hispid with hooked hairs—Pl. lighter green than 11 and with pale fr. and greenish-wh. fl.—Saffron Walden.
11. St. straggling—Ls. lanc., keeled, rough with reflexed prickles—Fr. covered with hooked bristles—Fl. sm. white.
12. St. very slender, spreading—Ls. six, narrowly lin. lanc. mucro., with forward pointing prickles—Fr. minute, tubercled.  
*\* \* \* \* Perennial—Fl. yell.—Ls. in whorls of 4.*
13. Ls. ovate, hairy—Fl. axill. whorled, shorter than ls.

Gen. III. *Asperula*.

1. Ls. 6-8 in whorl, obl. lanc. glab., all equal—Fl. white—Fr. hispid—Leaves odorous of coumarin.
- \*2. Ls. 4 in whorl, elliptic, 3-veined.
3. Ls. 4, lin., very unequal—Fl. pink—Fr. rugose.
- \*4. Ls. 6-10 in whorl, long, obt. lin. lanc.—Fl. blue.

Gen. IV. *Sherardia*.

1. Ls. 4-6, obl.-lanc., acute—Fl. in term. sess. umbels—Calyx teeth acute.  
*b. Calyx teeth blunt or obsolete.*



## ORD. XXXIX.—VALERIANACEÆ.

| Botanical Name.                               | Common Name.            | Soil<br>or<br>Situation.        | Colour.          | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|---------------------------------|------------------|----------|--|
| <b>Gen. I. Valeriana</b> <i>L.</i>            | <i>Valerian</i>         |                                 |                  |          |  |
| 1. <i>V. officinalis</i> <i>L.</i> . . .      | <i>True Valerian</i> .  | Woods . .                       | <i>ϕ.</i><br>Pk. | 2-4 ft.  | P. 6-8                                   |
| 2. <i>V. sambucifolia</i> <i>Mik.</i>         | <i>Valerian</i> . . .   | River sides,<br>dp. woods, etc. | <i>ϕ.</i><br>Pk. | 2-4 ft.  | P. 6-8                                   |
| 3. <i>V. dioica</i> <i>L.</i> . . .           | <i>Marsh Val.</i> . .   | Marshes . .                     | <i>ϕ.</i><br>Ro. | 6-10 in. | P. 5-6                                   |
| *4. <i>V. pyrenaica</i> <i>L.</i> . . .       | <i>Pyrenean Val.</i> .  | Plants. chiefly<br>in Scot.     | <i>ϕ.</i><br>Pk. | 2-4 ft.  | P. 6-7                                   |
| <b>Gen. II. Kentranthus</b><br><i>Neck.</i>   |                         |                                 |                  |          |  |
| *1. <i>K. ruber</i> <i>Druce</i> . . .        | <i>Red Val.</i> . . .   | Chalk cliffs .                  | Ro.              | 1-2 ft.  | P. 6-9                                   |
| *2. <i>K. calcitrapa</i> <i>Druce</i>         | . . . . .               | W. pl., walls                   | W.<br>or<br>Pu.  | 6-9 in.  | A.                                       |
| <b>Gen. III. Valerianella</b><br><i>Hill.</i> | <i>Corn Salad</i>       |                                 |                  |          |  |
| 1. <i>V. olitoria</i> <i>Poll.</i> . . .      | <i>Corn Salad</i> . .   | Hed. bks. corn<br>fie. etc.     | <i>ϕ</i> B.      | 2-12 in. | A. 4-6                                   |
| * . . . . .                                   |                         |                                 |                  |          |  |
| 2. <i>V. eriocarpa</i> <i>Desv.</i> . .       | <i>Hairy fr. C.</i> . . | Banks, etc. R.                  | <i>ϕ</i> Li.     | 2-10 in. | A. 5-6                                   |
| 3. <i>V. dentata</i> <i>Poll.</i> . . .       | . . . . .               | Cult. gr. . .                   | <i>ϕ</i> Li.     | 2-12 in. | A. 6-8                                   |
| <i>b. mixta</i> <i>Dufr.</i> . . . .          | . . . . .               | . . . . .                       | . .              | . .      | . .                                      |
| * * . . . . .                                 |                         |                                 |                  |          |  |
| 4. <i>V. carinata</i> <i>Lois</i> . . .       | . . . . .               | Walls and bks.                  | <i>ϕ</i> Li.     | 2-8 in.  | A. 4-6                                   |
| 5. <i>V. rimosa</i> <i>Bast.</i> . . .        | . . . . .               | Cult. gr. . .                   | <i>ϕ</i> B.      | 2-12 in. | A. 6-8                                   |

## ORD. XL.—DIPSACACEÆ.

|  |                        |                       |                  |          |        |
|--|------------------------|-----------------------|------------------|----------|--------|
| <b>Gen. I. Dipsacus</b> <i>L.</i>      |                        |                       |                  |          |        |
| 1. <i>D. fullonum</i> <i>L.</i> . . .  | <i>Teasel</i> . . . .  | Waysides,<br>thickets | <i>ϕ.</i><br>Pu. | 4-6 ft.  | P. 8-9 |
| ( <i>D. sylvestris</i> <i>Huds.</i> )  |                        |                       |                  |          |        |
| * <i>b. sativus</i> <i>L.</i> . . . .  | <i>Fuller's Teasel</i> | W. pl. . . . .        | W.               | . . . .  | P. 8-9 |
| 2. <i>D. pilosus</i> <i>L.</i> . . . . | <i>Shepherd's Rod</i>  | Moi. shady<br>pl. L.  |                  | 2-4 ft.  |        |
| <b>Gen. II. Scabiosa</b> <i>L.</i>     |                        |                       |                  |          |        |
| *1. <i>S. maritima</i> <i>L.</i> . . . | <i>Sea Scabious</i> .  | Sandy pl.<br>Jersey   | Pu.              | 9-18 in. | A. 7-8 |
| * <i>b. atropurpurea</i> ( <i>L.</i> ) | . . . . .              | . . . . .             | . .              | . .      | . .    |

## ORD. XXXIX.—VALERIANACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Valeriana.**

1. Ls. all pinn., lfts. in 6-10 pairs, lanc., toothed on one side.
2. Ls. all pinn., lfts. in 4-6 pairs, lanc., toothed all round.
3. Rad. ls. ov., st. ls. pinnfid.—Fl. usually diœcious.
- \*4. Ls. large, cordate, deeply serr.; upper with 1 or 2 pairs of basal lft.

**Gen. II. Kentranthus = Centranthus.**

- \*1. Ls. ov. lanc. glab. glauc.—Fl. in term. pan. cymes.—Spur slender.
- \*2. Formerly on walls at Eltham, Kent—Stem ls. pinnfid.—Spur very short.

**Gen. III. Valerianella.**

1. Fl. in dense term. cyme.—Fr. compressed, crowned with 3 minute, reflexed teeth—Fertile cell corky.  
\* *Barren cells 0 or reduced to a rib.*
2. Fr. pilose, crowned with the large, toothed, open, nearly regular, rather obliquely truncate, net veined calyx.
3. Fl. in lax cymes—Fr. ov., flattish, crowned with a 4-toothed lobe—Barren cells remote, very small—Fr. glab.  
*b. Fr. hairy.*  
\* \* *Fr. with 2 barren conspicuous cells, fertile cell not corky.*
4. Like sp. 1—Fr. obl., crowned with 1 straight tooth—Barren cell contiguous, equal to fertile cell.
5. Fl. in lax cymes—Fr. subglob., turgid, crowned with 1 erect tooth—Barren cell contiguous, larger than fertile cell.

## ORD. XL.—DIPSACACEÆ.

**Gen. I. Dipsacus.**

1. Ls. simp., opp. sess., lower connate—St. prickly—Invol. curved upwards.  
\**b. Invol. reflexed; scales of recept. hooked.*
2. Ls. stalked, with a basal pair of ls.—Heads sm., hairy.

**Gen. II. Scabiosa.**

- \*1. Ls. pinnfid.—Invol. and its base furrowed, cor. 5 cleft.  
\**b. Flowers large, blackish-violet (garden escape).*

ORD. XL.—DIPSACACEÆ (*continued*).

| Botanical Name.                                      | Common Name.                | Soil<br>or<br>Situation. | Colour.                  | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------------|--------------------------|--------------------------|---------|--|
| <b>Gen. II. Scabiosa L.</b><br>( <i>continued</i> ). |                             |                          |                          |         |  |
| 2. <i>S. Columbaria L.</i> . . .                     | <i>Small S.</i> . . .       | Calc. downs<br>and past. | Li.<br>or<br><i>liB.</i> | 1-2 ft. | P. 7-8                                   |
| 3. <i>S. Succisa L.</i> . . .                        | <i>Devil's bit S.</i> . . . | Past. etc. . .           | <i>pu.</i><br>B.         | 1-3 ft. | P. 7-9                                   |
| 4. <i>S. arvensis L.</i> . . .<br>( <i>Knautia</i> ) | <i>Field S.</i> . . .       | Cult. gr. etc.           | Li.                      | 1-4 ft. | P. 6-8                                   |

## ORD. XLI.—COMPOSITÆ.

|  |   |                               |                          |          |         |
|--|---|-------------------------------|--------------------------|----------|---------|
| <b>Gen. I. Eupatorium L.</b>                           |   |                               |                          |          |         |
| 1. <i>E. cannabinum L.</i> . . .                       | <i>Hemp Agrimony</i>                              | Riv. bks. moi.<br>woods, etc. | <i>p.</i><br><i>Pu.</i>  | 2-4 ft.  | P. 7-9  |
| <i>b. indivisum DC.</i> . . .                          | . . . . .   | . . . . .                     | . . .                    | . . .    | . . .   |
| <b>Gen. II. Solidago L.</b>                            |   |                               |                          |          |         |
| 1. <i>S. Virgaurea L.</i> . . .                        | <i>Golden Rod</i> . . .                           | Heathy pl. . .                | Y.                       | 6-30 in. | P. 7-9  |
| <i>b. angustifolia Gaud.</i>                           | . . . . .   | Heathy pl. . .                | Y.                       | 6-24 in. | P. 7-9  |
| <i>c. cambrica (Huds.)</i>                             | . . . . .   | Mt. rocks . . .               | Y.                       | 4-6 in.  | P. 7-9  |
| <b>Gen. III. Bellis L.</b>                             |   |                               |                          |          |         |
| 1. <i>B. perennis L.</i> . . .                         | <i>Daisy</i> . . . . .                            | Fields . . . .                | W.                       | 2-5 in.  | P. 3-10 |
| <b>Gen. IV. Aster L.</b>                               |   |                               |                          |          |         |
| *1. <i>A. salignus Willd.</i> . . .                    | <i>Aster</i><br><i>Michaelmas</i><br><i>Daisy</i> | W. pl. fens. R.               | <i>δVi.</i><br>and<br>Y. | 2-3 ft.  | P. 8-10 |
| 2. <i>A. Tripolium L.</i> . . .                        | <i>Sea A.</i> . . . . .                           | Salt ma. . . .                | . . .                    | 1-3 ft.  | P. 8-9  |
| <i>b. discoideus Reichb.</i>                           | . . . . .   | . . . . .                     | . . .                    | . . .    | . . .   |
| 3. <i>A. Linosyris Bernh.</i><br>( <i>Chrysocoma</i> ) | <i>Goldilock</i> . . . .                          | Calc. marit.<br>cliffs. R     | Y.                       | 9-18 in. | P. 8-10 |

(Several species of N. American Asters are naturalized in Britain.)

|                                   |  |                                   |                  |          |        |
|-----------------------------------|--|-----------------------------------|------------------|----------|--------|
| <b>Gen. V. Erigeron L.</b>        |  |                                   |                  |          |        |
| 1. <i>E. alpinus L.</i> . . . .   | <i>Flea-bane</i><br><i>Alpine F.</i> . . . . | Alp. roc. V.R.                    | <i>Pu.</i>       | 6-8 in.  | P. 7-8 |
| 2. <i>E. acris L.</i> . . . .     | <i>Blue F.</i> . . . . .                     | Dry pl. . . . .                   | <i>Pu.</i>       | 9-18 in. | B. 7-8 |
| *3. <i>E. canadensis L.</i> . . . | <i>Canadian F.</i> . . .                     | W. pl. . . . .                    | <i>γW.</i>       | 6-24 in. | A. 7-9 |
| <b>Gen. VI. Filago L.</b>         |  |                                   |                  |          |        |
| 1. <i>F. germanica L.</i> . . .   | <i>Cudweed</i><br><i>Upright C.</i> . . . .  | Dry soils . . .                   | <i>p.</i><br>Br. | 4-18 in. | A. 7-9 |
| <i>b. spathulata (Presl)</i>      | <i>Prost. C.</i> . . . .                     | Waysides, etc.<br>L. on dry soils | . . .            | 2-6 in.  | A.     |
| <i>c. apiculata (G. Sm.)</i>      | . . . . .                                    | Sandy soils, R.                   | . . .            | 4-12 in. | A.     |



ORD. XL.—DIPSACACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Scabiosa* (*continued*).

2. Ls. pinnfid.—Cor. 5 cleft—Involucel 8 furrowed—Calyx bristl. 4-5 persist.
3. Ls. ent.—Cor. 4 cleft—Involucel 8 furrowed—Calyx bristl. 4-5 persist.
4. Lower ls. sin. ; upper pinnfid.—Involucel 4 furrowed—Calyx bristl. 8-16 decid.

## ORD. XLI.—COMPOSITÆ or ASTERACEÆ.

Gen. I. *Eupatorium*.

1. Ls. opp. 3-5 part. ; lft. lanc. serr.—Heads in dense term. corymb.

*b. Ls. nearly simp., rare.*

Gen. II. *Solidago*.

1. Ls. ellip. lanc., more or less toothed, upper narrower—Fl. in paniced racemes.

*b. Ls. all lanc., obscurely toothed.*

*c. Rad. ls. broad, cili.—Cyme simp.—Fl. larger.*

Gen. III. *Bellis*.

1. Ls. ob.-ov. glab.—St. 1 flowered—Ligules often pink or tipped with pink.

Gen. IV. *Aster*.

- \*1. Rt. ls. spath. obt. ent.—St. ls. sessile, thin, lanc. acum.—Ray violet, disk yellow.

2. Ls. spath., fleshy—Ent. or rarely toothed—Heads corymb., ray pu., disk yell.

*b. Ray wanting.*

3. St. leafy—Ls. lin. ent. glab.—Heads corymb.—Fl. wholly yellow.

Gen. V. *Erigeron*.

1. Ls. mostly rad.—St. 1 or 2 headed—Ray (purple) much longer than the yellow disk—Fl.  $\frac{3}{4}$  in. = *E. borealis* Simmond.
2. St. leafy, branched—Several flowered—Ray purplish, scarcely longer than pale yell. disk—Pappus reddish—Fl.  $\frac{1}{2}$ – $\frac{3}{4}$  in.
- \*3. St. leafy, branched—Many flowered—Ray yellowish, disk pale—Fl.  $\frac{1}{4}$  in.

Gen. VI. *Filago*.

1. St. erect, dichot. branched, fl. heads in forks, branches ascend., leafy—Fl. heads, 20 or more in term. dense 5-angled clusters—Tip of invol. yellow.

*b. Pl. short, prost.—Ls. spath. flat—Heads overtopped by acute ls.—Tip of invol. yellow.*

*c. St. erect—Ls. obl. blunt, apiculate—Tip of invol. dark red.*

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.  | Common Name.                     | Soil<br>or<br>Situation.       | Colour.           | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|----------------------------------|--------------------------------|-------------------|-----------|--|
| <b>Gen. VI. Filago L.</b><br>( <i>continued</i> ).   |                                  |                                |                   |           |  |
| 2. <i>F. gallica</i> L. . . .  | <i>Narrow-leaved C.</i>          | Cult. gr. V.R.                 | Y.                | 2-6 in.   | A. 7-9                                   |
| 3. <i>F. minima</i> Fr. . . .  | <i>Least C.</i> . . . .          | Dry sandy<br>soil, etc.        | Y.                | 2-8 in.   | A. 6-9                                   |
| <b>Gen. VII. Antennaria</b><br><i>Gaertn.</i>  |                                  |                                |                   |           |  |
| 1. <i>A. dioica</i> Gaertn. . .  | <i>Mountain Cat's-<br/>foot</i>  | Hills and mt.<br>heaths        | <i>pk.</i><br>W.  | 3-8 in.   | P. 6-7                                   |
| <i>b. hyperborea</i> DC. . . .   | . . . . .                        | . . . . .                      | . . . . .         | . . . . . | . . . . .                                |
| <i>c. pedicellata</i> F.B.W.   | . . . . .                        | . . . . .                      | . . . . .         | . . . . . | . . . . .                                |
| *2. <i>A. margaritacea</i> Br.<br>( <i>Anaphalis margaritacea</i><br><i>C. B. Clarke</i> ) | <i>Pearly Ever-<br/>lasting</i>  | Stream sides,<br>etc. R.       | <i>br.</i><br>W.  | 1-3 ft.   | P. 8-9                                   |
| <b>Gen. VIII. Gnaphalium</b><br><i>L.</i>  |                                  |                                |                   |           |  |
| 1. <i>G. luteo-album</i> L. . .  | <i>Jersey C.</i> . . . .         | Dry pl. Ch.<br>Is. etc. R.     | <i>pk.</i><br>Y.  | 6-12 in.  | A. 7-8                                   |
| 2. <i>G. uliginosum</i> L. . .   | <i>Marsh C.</i> . . . .          | Moist pl. . . .                | <i>y.</i><br>Br.  | 2-9 in.   | A. 7-10                                  |
| <i>b. pilulare</i> (Wahl.)   | . . . . .                        | . . . . .                      | . . . . .         | . . . . . | . . . . .                                |
| 3. <i>G. sylvaticum</i> L. . .   | <i>Heath C.</i> . . . .          | Heaths . . . .                 | Br.               | 6-15 in.  | P. 7-9                                   |
| <i>b. alpestre</i> Druce . . .   | . . . . .                        | Alpine places                  | <i>dk.</i>        | 4-8 in.   | . . . . .                                |
| 4. <i>G. norvegicum</i> Gunn.  | <i>Alpine C.</i> . . . .         | Alp. roc. V.R.                 | Br.<br><i>dk.</i> | 6-10 in.  | P. 7-9                                   |
| 5. <i>G. supinum</i> L. . . .  | <i>Dwarf C.</i> . . . .          | Alp. roc. . . .                | <i>dk.</i><br>Br. | 1-4 in.   | P. 7-8                                   |
| <i>b. fuscum</i> (Hartm.)  | . . . . .                        | . . . . .                      | . . . . .         | . . . . . | . . . . .                                |
| *6. <i>G. undulatum</i> L. . .   | <i>Cape C.</i> . . . .           | Natur. in<br>Jersey            | W.                | 9-18 in.  | P. 7-8                                   |
| <b>Gen. IX. Inula L.</b>   |                                  |                                |                   |           |  |
| 1. <i>I. Helenium</i> L. . . .   | <i>Elecampane</i> . . . .        | Mead. w. pl.<br>etc. R.        | Y.                | 2-5 ft.   | P. 7-8                                   |
| 2. <i>I. salicina</i> L. . . . .   | <i>Irish Inula</i> . . . .       | Dp. roc. pl.<br>R. Irel.       | Y.                | 10-18 in. | P. 7-8                                   |
| *3. <i>I. britannica</i> L. . . .  | . . . . .                        | W. pl. . . . .                 | Y.                | 1-2 ft.   | P. 7-8                                   |
| 4. <i>I. squarrosa</i> Bernh.<br>( <i>I. Conyza</i> DC.)                                   | <i>Ploughman's<br/>Spikenard</i> | Calc. pl. . . .                | <i>pk.</i><br>Y.  | 2-5 ft.   | B. 7-9                                   |
| 5. <i>I. crithmoides</i> L. . .  | <i>Golden Samphire</i>           | Marit. rocks<br>or salt ma. R. | Y.                | 6-18 in.  | P. 7-8                                   |
| <b>Gen. X. Pulicaria</b><br><i>Gaertn.</i>   |                                  |                                |                   |           |  |
| 1. <i>P. dysenterica</i> Gray  | <i>Flea-bane</i> . . . .         | Wet pl. . . .                  | Y.                | 1-2 ft.   | P. 7-9                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. VI. *Filago* (*continued*).

2. Pl. grey with silky wool—St. erect—Ls. lin. revolute—Head axill., shorter than ls.—Sark, Essex.
3. Pl. greyish, woolly—St. erect, branched or prost.—Ls. lin. flat—Heads term. and axill., longer than ls.

Gen. VII. *Antennaria*.

1. St. herb. proc.—Ls. spath., glab. above, cottony below—Fl. diœcious in simp. corymb. .  
*b. Ls. cottony on upper and lower surface—Very rare—Skye.*  
*c. Fl. heads on long pedicels.*
- \*2. St. erect, shrubby—Ls. lanc.—Corymb compound—A naturalized N. Am. plant. Put by Bentham and Hooker in the genus *Anaphalis*.

Gen. VIII. *Gnaphalium*.

1. St. simp. herb.—Heads in dense, leafless corymbs—Fl. straw-coloured, shining.
2. St. spreading, much branched—Heads in term. crowded tufts—Fr. glab.  
*b. Fr. covered with papillose hairs—Rare.*
3. St. simp.—Heads axill. and term. forming a long leafy rac.—Ls. lin. lanc.  
*b. Spikes shorter and narrower, invol. bracts darker—Ls. somewhat broader.*
4. St. simp.—Ls. obl. lanc., those in midd. of st. broadest, cottony on both sides—Heads sub-sess. in short term. spike—Invol. bract blackish brown.
5. St. tufted with few sess. heads, in short term. spike or rac.  
*b. Heads stalked, in rather lax rac.*
- \*6. St. erect—Pl. viscid—Ls. lin. lanc., dk. gr. above, flannelly white below—Fl. corymb., branched, with many sm. glistening, whitish heads.

Gen. IX. *Inula*.

1. Lr. ls. large (6-9 in. broad), velvety beneath, obl. lanc. ; st. ls. sess. or cord.—Heads (3 in.), invol. bracts broadly ov. leafy, reflexed.
2. Ls. ob.-lanc. (2-3 in.), slightly hairy beneath ; stem ls. ellip. glossy, semi-ampl.—Heads sol. (1½ in.) ; achenes glab.—Shores of Lough Dearg.
- \*3. Lr. ls. (½-¾ in. broad), lanc. amplex. dull from villose hairs—Head 1-2 (2 in.)—Achenes hairy—Eut., alien in Leicest. and York.
4. Ls. oval-lanc., pubesc. serr. upper ent.—Invol. bract lin. reflexed—Heads (¾ in.) corymb.—Ray short.
5. Ls. lin. fleshy, glab., narrowed towards base—Head (1 in.) on long ped. ; invol. bract lin.—Ray yell.—Disk orange.

Gen. X. *Pulicaria* = *Inula* in part.

1. Stem woolly—Ls. amplex. lanc. ov.—Head (1 in.) corymb.—Ray much longer than disk.



ORD. XLI. —COMPOSITÆ (*continued*).

| Botanical Name.   | Common Name.                           | Soil<br>or<br>Situation.  | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--|---------------------------|---------|-----------|--|
| <b>Gen. X. Pulicaria</b><br>( <i>continued</i> ).   |  |                           |         |           |  |
| 2. <i>P. prostrata</i> <i>Asch.</i> . .<br>( <i>P. vulgaris</i> = <i>Inula</i><br><i>Pulicaria</i> )    | <i>Small F.</i> . .                    | Wet pl. L. .              | Y.      | 3-18 in.  | A. 8-9                                   |
| <b>*Gen. XI. Xanthium</b> <i>L.</i>   |  |                           |         |           |  |
| *1. <i>X. strumarium</i> <i>L.</i> . .  | . . . .                                | W. pl. . .                | Gr.     | 1-2 ft.   | A. 7-8                                   |
| *2. <i>X. spinosum</i> <i>L.</i> . .  | . . . .                                | W. pl. . .                | Gr.     | 6-12 in.  | A. 7-8                                   |
| (Species of <i>Ambrosia</i> , <i>Helianthus</i> , <i>Rudbeckia</i> , etc., are naturalized in Britain.) |  |                           |         |           |  |
| <b>Gen. XII. Bidens</b> <i>L.</i>   | <i>Bur-Marigold</i>                    |                           |         |           |  |
| 1. <i>B. cernua</i> <i>L.</i> . . .   | <i>Nodding B.</i> . .                  | Wet pl. . .               | gY.     | 2-24 in.  | A. 7-10                                  |
| <i>b. radiata</i> <i>DC.</i> . .  | . . . .                                | . . . .                   | . .     | . .       | . .                                      |
| 2. <i>B. tripartita</i> <i>L.</i> . .   | <i>Trifid B.</i> . .                   | Wet pl. . .               | gY.     | 2-24 in.  | A. 7-10                                  |
| <i>b. integra</i> <i>Koch</i> . .   | . . . .                                | . . . .                   | . .     | . .       | . .                                      |
| <b>*Gen. XIII. Galinsoga</b><br><i>R. &amp; P.</i>  |  |                           |         |           |  |
| *1. <i>G. parviflora</i> <i>Cav.</i> . .  | <i>Peruvian G.</i> . .                 | W. pl. Kew .              | Y.      | 6-24 in.  | A. 7-10                                  |
| <b>Gen. XIV. Achillea</b> <i>L.</i>   |  |                           |         |           |  |
| 1. <i>A. Millefolium</i> <i>L.</i> . .  | <i>Yarrow</i> . . .                    | Past. etc. . .            | W.      | 6-24 in.  | P. 7-8                                   |
| <i>b. alpestris</i> <i>W. &amp; G.</i> . .  | . . . .                                | Alpine . . .              | . .     | 4-12 in.  | . .                                      |
| <i>c. lanata</i> <i>Koch</i> . . .  | . . . .                                | Dry rocky pl.             | . .     | 6-12 in.  | . .                                      |
| 2. <i>A. Ptarmica</i> <i>L.</i> . .   | <i>Sneezewort</i> . .                  | Moi. pl. . .              | W.      | 1-2 ft.   | P. 7-9                                   |
| <b>Gen. XV. Diotis</b> <i>Desf.</i>   |  |                           |         |           |  |
| 1. <i>D. maritima</i> <i>Cass.</i> . .  | <i>Sea Cotton Weed</i>                 | Sea shingle<br>V. R.      | Y.      | 6-18 in.  | P. 8-9                                   |
| <b>Gen. XVI. Anthemis</b> <i>L.</i>   |  |                           |         |           |  |
| *1. <i>A. tinctoria</i> <i>L.</i> . .   | <i>Yellow Camo-<br/>mile</i>           | Railway bk.<br>and w. pl. | Y.      | 6-24 in.  | P. 7-8                                   |
| 2. <i>A. nobilis</i> <i>L.</i> . . .  | <i>Camomile</i> . .                    | Turfy pl. L.              | W.      | 3-12 in.  | P. 7-10                                  |
| 3. <i>A. arvensis</i> <i>L.</i> . .   | <i>Corn C.</i> . . .                   | Cult. gr. . .             | W.      | 6-24 in.  | A. 6-8                                   |
| <i>b. anglica</i> ( <i>Spr.</i> ) . .   | . . . .                                | . . . .                   | . .     | . .       | . .                                      |
| 4. <i>A. Cotula</i> <i>L.</i> . . .   | <i>May Weed,</i><br><i>Stinking C.</i> | Cult. gr. . .             | W.      | 6-16 in.  | A. 6-9                                   |
| <i>b. maritima</i> <i>Bromf.</i>  | . . . .                                | Seaside . .               | . .     | . .       | . .                                      |
| <b>Gen. XVII. Chrysanthemum</b> <i>L.</i>   |  |                           |         |           |  |
| 1. <i>C. segetum</i> <i>L.</i> . . .  | <i>Corn Marigold</i>                   | Corn fie. . .             | Y.      | 12-18 in. | A. 6-10                                  |
| 2. <i>C. Leucanthemum</i> <i>L.</i>   | <i>Ox-eye Daisy</i> .                  | Past. etc. .              | W.      | 2-24 in.  | P. 6-8                                   |
| 3. <i>C. Parthenium</i> <i>Bernh.</i>   | <i>Feverfew</i> . . .                  | Hedges, w. pl.            | W.      | 1-3 ft.   | P. 7-9                                   |

ORD. XLI.—COMPOSITÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. X. Pulicaria** (*continued*).

2. Pl. pubesc.—Ls. sess. obl. lanc. wavy—Head ( $\frac{1}{3}$ – $\frac{1}{2}$  in.) term. and axill.—Ray short.

**\*Gen. XI. Xanthium.**

- \*1. Lower ls. cordate, 3 lobed, not spiny—Fr. oval, beaks 2, hooked at top; invol. downy.  
 \*2. Spiny—Ls. lanc., deeply lobed—Pale beneath—Fr. with 1 single straight beak.

**Gen. XII. Bidens.**

1. Ls. lanc. ent. sess.—Head drooping—Pappus brist. 4—Rayless.  
*b. Ray flowers present, bright yell.—Rare.*  
 2. Ls. three-cleft, stalked—Head sub-erect—Pappus brist. 2.  
*b. Ls. sub-simple.*

**\*Gen. XIII. Galinsoga.**

- \*1. Ls. ov.; obt. serr. cili.—Heads ( $\frac{1}{6}$ – $\frac{1}{4}$  in.) in dichot. cymes—Ped. ebract. gland.

**Gen. XIV. Achillea.**

1. Ls. 3-pinnfid., heads many fl. white, pink, or crimson.  
*b. Ls. deeply 3-pinnfid., phyll. with broad dark margin.*  
*c. Pl. densely villous.*  
 2. Ls. lin. serrulate, heads few.

**Gen. XV. Diotis.**

1. Densely tomentose—Ls. thick, sess. obt.—Heads corymb.—Wexford, ? extinct in Brit.

**Gen. XVI. Anthemis.**

- \*1. Flowers wholly yell. (ray rarely absent)—Ls. bipinn. downy beneath—Recept. hemisph.  
 2. St. procumb.—Ls. bipinn. seg. lin. slightly downy—Invol. bract blunt—Aromatic.  
 3. St. erect—Ls. bipinn. hoary—Invol. bract acute—Almost scentless—Recep. conical.  
*b. Ls. fleshy—Recep. flat—Sea coast Northumberland.*  
 4. St. erect, much branched—Ls. bipinn., glab.; seg. subul.—Invol. bract lin. setaceous—Fœtid.  
*b. Procumb.—Ls. fleshy—Isle of Wight.*

**Gen. XVII. Chrysanthemum.**

1. Ray yell.—Ls. amplex. glab. glauc.—Invol. bract with broad membr. margin.  
 2. Ray white—Ls. dark green above—Invol. bract with narrow membr. margin—Head 2 in.  
 3. Ray white (or none)—Ls. light green, pinn. seg. ov. blunt—Heads ( $\frac{1}{4}$ – $\frac{3}{4}$  in.) many—Pl. odorous.

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.   | Common Name.                           | Soil or Situation.          | Colour.   | Growth.   | Duration and time of flowering. |
|---|--|-----------------------------|-----------|-----------|---------------------------------|
| <b>Gen. XVIII. Matri-<br/>caria L.</b>  |  |                             |           |           |                                 |
| 1. <i>M. inodora</i> L. . .   | <i>Scentless May Weed</i>              | Cult. gr. and w. pl.        | W.        | 1-2 ft.   | A. 6-10                         |
| <i>b. maritima</i> (L.) . .   | . . . . .                              | Sea co. . . .               | . .       | . .       | P. 6-9                          |
| <i>c. salina</i> (Bab.) . .   | . . . . .                              | „ „ . . . .                 | . .       | . .       | A. or B. 6-9                    |
| <i>d. phaeocephala</i> Rupr.  | . . . . .                              | Scot. co. R. . .            | . .       | . .       | P. 6-9                          |
| 2. <i>M. Chamomilla</i> L. .  | <i>Wild Camomile</i>                   | Cult. gr. . . .             | W.        | 12-18 in. | A. 6-8                          |
| *3. <i>M. suaveolens</i> Buch.<br>( <i>M. discoidea</i> DC.)                                  | <i>Rayless C.</i> . . .                | W. pl. . . . .              | gr.<br>Y. | 4-12 in.  | A. 6-8                          |
| <b>*Gen. XIX. Cotula L.</b>   |  |                             |           |           |                                 |
| *1. <i>C. coronopifolia</i> L. .  | . . . . .                              | W. pl. V. R.                | Y.        | 4-12 in.  | A. 7-8                          |
| <b>Gen. XX. Tanacetum L.</b>  |  |                             |           |           |                                 |
| 1. <i>T. vulgare</i> L. . . .   | <i>Tansy</i> . . . . .                 | Dry sunny pl.               | Y.        | 2-3 ft.   | P. 8-9                          |
| <b>Gen. XXI. Artemisia L.</b>   |  |                             |           |           |                                 |
| 1. <i>A. Absinthium</i> L. . .  | <i>Wormwood</i> . . .                  | W. pl. . . . .              | pY.       | 1-2 ft.   | P. 8-9                          |
| 2. <i>A. campestris</i> L. . .  | . . . . .                              | Heathy pl. in E. of E.      | pY.       | 1-3 ft.   | P. 8-9                          |
| 3. <i>A. vulgaris</i> L. . . .  | <i>Mugwort</i> . . .                   | Hedges and w. pl.           | br.<br>Y. | 2-4 ft.   | P. 7-9                          |
| <i>b. coarctata</i> Fors. . .   | . . . . .                              | . . . . .                   | . .       | . .       | . .                             |
| 4. <i>A. maritima</i> L. . . .  | . . . . .                              | Sea sh. . . . .             | rY.       | 9-18 in.  | P. 8-9                          |
| <i>b. gallica</i> (Willd.)  | . . . . .                              | . . . . .                   | . .       | . .       | . .                             |
| *5. <i>A. Stelleriana</i> Bess.   | <i>Kamschatka W.</i>                   | Sea sh. R. . .              | pY.       | 1-2 ft.   | P. 7-9                          |
| <b>Gen. XXII. Tussilago L.</b>  |  |                             |           |           |                                 |
| 1. <i>T. Farfara</i> L. . . .   | <i>Coltsfoot</i> . . . .               | Clay soils . . .            | Y.        | 4-10 in.  | P. 3-5                          |
| <b>Gen. XXIII. Petasites Hill.</b>  |  |                             |           |           |                                 |
| 1. <i>P. ovatus</i> Hill . . .<br>( <i>P. vulgaris</i> Desf.)<br><i>b. hybrida</i> (L.) . . . | <i>Butter-bur</i> . . .                | Wet pl. . . . .             | Pk.       | 6-12 in.  | P. 3-5                          |
| *2. <i>P. fragrans</i> Presl. . .<br>( <i>Nardosmia</i> )                                     | <i>Winter Heliotrope</i>               | Bord. of plants. and w. pl. | cm.<br>W. | 6-12 in.  | P. . 5                          |
| *3. <i>P. albus</i> Gaertn. . . .   | . . . . .                              | Wa. pl., plants.            | W.        | 6-12      | P. 3-5                          |
| <b>Gen. XXIV. Doronicum L.</b>  |  |                             |           |           |                                 |
| *1. <i>D. Pardalianches</i> L.  | <i>Leopard's Bane Great L.</i> . . . . | Plants., etc. R.            | Y.        | 2-3 ft.   | P. 5-7                          |
| *2. <i>D. plantagineum</i> L.   | <i>Plantain-leaved L.</i>              | . . . . .                   | Y.        | 2-3 ft.   | P. 5-7                          |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XVIII. Matricaria.**

1. Ls. pinnfid. sess. ; segm. capill.—Heads sol.—Invol. bract edged with brown—Inodorous—Ach. trigonous.  
*b. Perenn.—Rootstock woody—Segm. of ls. short, fleshy, shining—Ach. 4-gon.*  
*c. Ann. or bienn.—Ls. segm. short, fleshy, crowded—Ach. trigonous.*  
*d. As b., but heads very large—Invol. bract with dark br. marg.*
2. Ls. bipinn. ; seg. lin.—Head sol. long stalked—Recep. con., hollow, invol. bract without dark edge—Scent of *Anthemis nobilis*, but fainter.
- \*3. Stalk densely leafy—Head with broadly memb. invol. bract—No ray-florets.

**\*Gen. XIX. Cotula.**

- \*1. Ls. succulent, lanc. amplex., acutely lobed—Heads sol. button-shaped, of brilliant yell. disc. florets—Introduced at Leasowe, Cheshire.

**Gen. XX. Tanacetum.**

1. Ls. bipinnfid. ; seg. inciso-serr.—Heads rayless in term. corymb.

**Gen. XXI. Artemisia.**

1. Ls. silky above and below, pinnfid. ; seg. lanc. obt.—Heads drooping, silky ; outer fl. fertile.
2. St. twiggy—Ls. bipinn. ; seg. lin. silky beneath—Head glab., drooping, outer fl. alone fertile—Not aromatic—Invol. bract glab. ovate, with scarious marg.
3. Ls. dark gr. above, woolly beneath, pinnfid., seg. lanc., acute, serr.—Head erect, woolly—Fl. all fertile.  
*b. Racemes condensed—Ls. segm. lin. lanc.*
4. Ls. woolly pinnfid. : seg. lin. obt.—Heads drooping—Heads few, all perfect—Invol. cottony.  
*b. Heads erect.*
- \*5. Pl. densely white felted—Ls. pinnfid., seg. broad, blunt—Rac. simp.—Heads large, erect, glob. camp.—Naturalized Dublin, Penzance.

**Gen. XXII. Tussilago**

1. Ls. cord. ang., downy beneath—St. single flowered—Head ( $\frac{3}{4}$ – $1\frac{1}{4}$  in.) bright yell.

**Gen. XXIII. Petasites.**

1. Ls. very large (3 in.–3 ft.), orb. cord. toothed—Fl.  $\frac{1}{3}$ – $\frac{1}{2}$  in. in dense spikes, appearing before ls.  
*b. Pan. lax, long—Heads chiefly of female fl.*
- \*2. Ls. cordate, greenly pubescent below—Fem. fl. shortly ligulate—Odour of Vanilla.
- \*3. Ls. smaller, cord. deeply scalloped ; very white below—Flowers white, or cream.

**Gen. XXIV. Doronicum.**

- \*1. Rad. ls. ovate-cord.—Lower stem ls. with clasping auricles—Head ( $1\frac{1}{2}$ –2 in.) 3 to 5.
- \*2. Rad. ls. ovate—Stem ls. sess.—Head (2 in.) usually solitary.

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.                                 | Common Name.              | Soil or Situation.            | Colour.   | Growth.   | Duration and time of flowering. |
|---|---------------------------|-------------------------------|-----------|-----------|---------------------------------|
| <b>Gen. XXV. Senecio</b> <i>L.</i>              |                           |                               |           |           |                                 |
| *<br>*1. <i>S. sarracenicus</i> <i>L.</i> . . . |                           |                               |           |           |                                 |
|   | <i>Groundsel, Ragwort</i> |                               |           |           |                                 |
|   | <i>Broad-leaved R.</i>    | River sides, etc. R.          | Y.        | 3-5 ft.   | P. 6-7                          |
| 2. <i>S. paludosus</i> <i>L.</i> . . .          | <i>Fen Ragw.</i> . . .    | Fens, E. of E. V. R.          | Y.        | 1-3 ft.   | P. 6-7                          |
| * *<br>3. <i>S. aquaticus</i> <i>Hill</i> . . . |                           |                               |           |           |                                 |
|   | <i>Marsh R.</i> . . .     | Meadows . . .                 | Y.        | 1-3 ft.   | B. 7-8                          |
| <i>b. pennatifidus</i> <i>Gren.</i>             |                           |                               |           |           |                                 |
| 4. <i>S. Jacobæa</i> <i>L.</i> . . .            | <i>Ragwort</i> . . .      | Waysides, past., etc.         | Y.        | 1-4 ft.   | P. 6-9                          |
| <i>b. discoideus</i> <i>L.</i> . . .            |                           |                               |           | 1-2 ft.   |                                 |
| 5. <i>S. erucifolius</i> <i>L.</i> . . .        | <i>Hoary R.</i> . . .     | Waysides, etc.                | Y.        | 1-3 ft.   | P. 6-9                          |
| *6. <i>S. squalidus</i> <i>L.</i> . . .         | <i>Oxford R.</i> . . .    | Walls, railway sides          | Y.        | 1-2 ft.   | A. or P. 3-9                    |
| <i>b. leiocarpus</i> <i>Druce</i>               | . . . . .                 | . . . . .                     | . . . . . | . . . . . | . . . . .                       |
| * * B   |                           |                               |           |           |                                 |
| 7. <i>S. viscosus</i> <i>L.</i> . . .           | <i>Stinking G.</i> . . .  | W. pl. . . .                  | Y.        | 6-24 in.  | A. 7-9                          |
| 8. <i>S. sylvaticus</i> <i>L.</i> . . .         | <i>Heath G.</i> . . .     | Heathy pl. . .                | Y.        | 6-36 in.  | A. 7-9                          |
| <i>b. auriculatus</i> <i>Sm.</i>                |                           |                               |           |           |                                 |
| 9. <i>S. vulgaris</i> <i>L.</i> . . .           | <i>Groundsel</i> . . .    | Cult. gr., etc.               | Y.        | 3-12 in.  | A. 4-12                         |
| <i>b. radiatus</i> <i>Koch</i> . . .            | . . . . .                 | . . . . .                     | . . . . . | . . . . . | . . . . .                       |
| <i>c. lanuginosus</i> <i>Druce</i>              | . . . . .                 | . . . . .                     | . . . . . | . . . . . | . . . . .                       |
| * * *   |                           |                               |           |           |                                 |
| *10. <i>S. Cineraria</i> <i>DC.</i> . . .       | . . . . .                 | Cliffs nr. sea .              | Y.        | 1-2 ft.   | P. 7-9                          |
| × <i>Jacobæa</i> = <i>S. albescens</i>          |                           |                               |           |           |                                 |
| 11. <i>S. integrifolius</i> <i>Clairv.</i>      | <i>Field Fleabane</i>     | Calc. downs .                 | Y.        | 4-15 in.  | P. 5-6                          |
| ( <i>S. campestris</i> <i>DC.</i> )             |                           |                               |           |           |                                 |
| <i>b. spathulifolius</i> . . .                  | . . . . .                 | Sea cliffs and calc. rock. R. | Y.        | 12-24 in. | P. 6-7                          |
| ( <i>DC.</i> )                                  |                           |                               |           |           |                                 |
| 12. <i>S. palustris</i> <i>Hook.</i> . .        | <i>Fen F.</i> . . .       | Fen E. of E. V. R.            | Y.        | 2-4 ft.   | B. 6-7                          |
| <b>Gen. XXVI. Carlina</b> <i>L.</i>             |                           |                               |           |           |                                 |
| 1. <i>C. vulgaris</i> <i>L.</i> . . .           | <i>Carlina Thistle</i>    | Downs, etc. .                 | pu. Br.   | 6-18 in.  | B. 6-10                         |
| <b>Gen. XXVII. Arctium</b> <i>L.</i>            |                           |                               |           |           |                                 |
| 1. <i>A. Lappa</i> <i>L.</i> . . .              | <i>Great Burdock</i> .    | Woodlands .                   | Pk.       | 3-4 ft.   | B. 7-8                          |
| 2. <i>A. minus</i> <i>Bernh.</i> . . .          | <i>Small B.</i> . . .     | Woods . . .                   | Pu.       | 2 3 ft.   | B. 7-8                          |
| <i>b. vulgare</i> ( <i>Hill</i> ) . . .         | . . . . .                 | Wa. pl. . . .                 | Pu.       | 2 4 ft.   | . . .                           |

Both *minus* and var. have forms with heads



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XXV. *Senecio*.\* *Leaves undivided.*\*1. St. solid—Ls. lin. obl. sess. glab. irreg. serr.—Heads ( $\frac{3}{4}$  in.) many—Ped. short.2. St. hollow—Ls. narr. obl. lanc. coarsely serr.—Head (1 in.)—Ped. long—  
? Extinct.\* \* *Leaves pinnfid. or bipinnfid. (except 3)—A. Ray floret spreading.*3. Ls. variable—Rad. ls. ent. ov. or obl.—Upper lyrate, serr., term. lobe lge. obl  
—Fr. all glab. to naked eye.*b. Ls. in middle of stem deeply pinnfid.*4. St. smooth—Rad. ls. lyr. pinnatifid. or bipinnfid, glab., term. lobe sm.—Fr.  
of disc hairy.*b. Without ray florets.*5. St. ang., somewhat cottony—Ls. pinnfid., downy beneath—Outer invol. bract  $\frac{1}{2}$   
as long as inner—All ribs of fr. silky.\*6. Ls. pinnfid. (or obl. lanc., toothed), segm. lin. glab.—Outer invol. bract few,  
short—Fr. hairy.*b. Fr. glabrous.*\* \* *B. Ray floret wanting or revolute.*7. Viscid, glandular, hairy—Outer invol. bract  $\frac{1}{2}$  as long as inner—Fr. glab.—Ray  
revolute.8. Slightly viscid and hairy—Outer invol. bract very short—Fr. hairy—Ray  
revolute.*b. Upper ls. auric. and clasping = S. lividus Sm.*

9. Glab. or slightly cottony—Succulent—Ray floret o.

*b. Fl. with short ray.**c. Fl. with short ray—Ls. covered with shaggy hairs—Pl. in Ch. Isles  
often very small (1 in.).*\* \* \* *Outer invol. bracts o—Ray fl. spread. = Cineraria L.*\*10. St. woody—Pl. white-tomentose—Ls. densely white felted beneath, deeply  
pinnfid—Heads numerous—Torquay, Dalkey, etc.*× Ls. less cottony, and of thinner text. with parents.*11. St. simp.—Rad. ls. ov. ent.—St. ls. lanc.; head  $\frac{3}{4}$ –1 in.*b. Tall, stout—St. ls. ov. obl., clasping—Rare—Mickle Fell, Holyhead.*12. St. hollow, stout, shaggy, much branched—Ls. lanc. semi-amplex—Lower ls.  
sinuate—? Extinct.Gen. XXVI. *Carlina*.1. St. erect, branched—Outer invol. bracts pinnfid., cili.; inner lin. white—Head  
 $\frac{3}{4}$ –1 $\frac{1}{2}$  in.Gen. XXVII. *Arctium*.1. Radi. ls. obt. very large—Heads loosely corymbose ( $\frac{3}{4}$ –1 $\frac{1}{2}$  in.), glab., long-  
stalked—Lower petiole solid—Phyllaries widely spreading = *A. majus*.2. Radi. ls. never obt.—Peti. hollow—Heads very small ( $\frac{1}{2}$ – $\frac{3}{4}$  in.)—Phyllaries  
appressed.*b. as minus—Heads  $\frac{3}{4}$ –1 in.—Phyllaries not appressed = A. vulgare Evans  
= A. nemorosum Lej.—A. intermedium.*

closely aggregated on the branchlets.



ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.                           | Common Name.  | Soil<br>or<br>Situation.        | Colour.            | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---|---------------------------------|--------------------|-----------|--|
| <b>Gen. XXVIII. Carduus</b><br><i>L.</i>  | <i>Thistle</i>  |                                 |                    |           |  |
| 1. <i>C. nutans L.</i> . . .              | <i>Musk T.</i> . . .                                      | Calc. pl.,<br>downs, etc.       | Pu.                | 1-3 ft.   | B. 5-10                                  |
| 2. <i>C. crispus L.</i> . . .             | <i>Wetted T.</i> . . .                                    | Waysides, etc.                  | Pu.                | 1-3 ft.   | B. 6-8                                   |
| <i>b. acanthoides Syme</i>                | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| <i>c. multiflorus DC.</i>                 | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| × <i>nutans</i> . . . .                   | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| 3. <i>C. tenuiflorus Curt.</i>            | <i>Slender T.</i> . . .                                   | Dry pl. chiefly<br>nr. coast    | <i>p.</i><br>Pu.   | 1-3 ft.   | B. 6-8                                   |
| <b>Gen. XXIX. Cirsium</b><br><i>Hill</i>  | <i>Plume Thistle</i><br><i>Woolly-headed</i><br><i>T.</i> |                                 |                    |           |  |
| 1. <i>C. eriophorum Scop.</i>             | . . . .   | Calc. gr. L. .                  | Pu.                | 3-5 ft.   | B. 7-8                                   |
| 2. <i>C. lanceolatum Scop.</i>            | <i>Spear T.</i> . . .                                     | W. pl. fie., etc.               | Pu.                | 2-5 ft.   | B. 7-8                                   |
| <i>b. hypoleucum (DC.)</i>                | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| 3. <i>C. heterophyllum</i><br><i>Hill</i> | <i>Melancholy T.</i> . .                                  | Mt. past. of<br>N. Brit.        | Pu.                | 2-4 ft.   | P. 7-8                                   |
| × <i>palustre</i> = <i>C. Wankelii</i>    | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| 4. <i>C. acaule Web.</i> . . .            | <i>Stemless T.</i> . . .                                  | Downs, etc. .                   | Pu.                | 2-6 in.   | P. 7-8                                   |
| <i>b. caulescens (Pers.)</i>              | . . . .   | . . . .                         | . . .              | 6-15 in.  | . . .                                    |
| 5. <i>C. pratense Druce</i> .             | <i>Meadow T.</i> . . .                                    | Marshes and<br>bogs             | <i>ro.</i><br>Pu.  | 12-18 in. | P. 6-8                                   |
| 6. <i>C. tuberosum All.</i> .             | <i>Tuberous T.</i> . . .                                  | Calc. downs<br>and cliffs. V.R. | <i>ro.</i><br>Pu.  | 12-18 in. | P. 6-8                                   |
| 7. <i>C. arvense Scop.</i> . .            | <i>Field T.</i> . . .                                     | W. pl. . . .                    | <i>dull</i><br>Pu. | 1-4 ft.   | P. 7-9                                   |
| <i>b. mite Koch</i> . . .                 | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| <i>c. setosum Mey.</i> . .                | . . . .   | . . . .                         | . . .              | . . .     | . . .                                    |
| 8. <i>C. palustre Scop.</i> .             | <i>Marsh T.</i> . . .                                     | Mead., moi.<br>woods            | Pu.                | 1-11 ft.  | P. 7-9                                   |

(Hybrids of 3 × 8, 4 × 7, 4 × 5, 8 × 5, 8 × 7 have been found.)

**Gen. XXX. Onopordon** *L.*

|                             |                         |              |       |         |        |
|-----------------------------|-------------------------|--------------|-------|---------|--------|
| 1. <i>O. Acanthium L.</i> . | <i>Cotton Thistle</i> . | W. pl. . . . | Pu.   | 2-6 ft. | B. 7-9 |
| <i>b. viride Michet</i> .   | . . . .                 | . . . .      | . . . | . . .   | . . .  |

**Gen. XXXI. Silybum***Adans.*

|                                |                       |              |     |         |        |
|--------------------------------|-----------------------|--------------|-----|---------|--------|
| *1. <i>S. Marianum Gaertn.</i> | <i>Milk Thistle</i> . | W. pl. . . . | Pu. | 1-5 ft. | B. 7-9 |
|--------------------------------|-----------------------|--------------|-----|---------|--------|

**Gen. XXXII. Saussurea***DC.*

|                             |                       |                |                  |          |        |
|-----------------------------|-----------------------|----------------|------------------|----------|--------|
| 1. <i>S. alpina DC.</i> . . | <i>Alpine Sawwort</i> | Alp. cliff. L. | <i>pu.</i><br>V. | 8-15 in. | P. 7-9 |
|-----------------------------|-----------------------|----------------|------------------|----------|--------|

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XXVIII. *Carduus*.

1. Head (1-2 in.), sol., drooping—Invol. bract lanc., cottony, outer spreading, reflexed.
2. Head ( $\frac{1}{3}$ - $\frac{2}{3}$  in.) round, clustered—Invol. bract lin., erect or ascending.
  - b. "*Ls. green on both sides—Heads sub-sol., sub-globular,*" Syme.
  - c. "*Ls. green on both sides, pubesc. on veins—Heads, aggregated, ovoid,*" Syme.
- × Hybrid of 1 and 2—Peduncles naked at top—Head larger.
3. Head cylind., clustered—Invol. bract ov. lanc., attenuate.

Gen. XXIX. *Cirsium* = *Cnicus*.

1. St. not winged—Ls. pinnfid., lobes bifid.—Head (2-3 in.) cottony—Invol. bract lanc. with long spinous point.
2. St. winged—Ls. pinnfid.—Head ( $\frac{3}{4}$ -1½ in.) less cottony than 1—Invol. bract lanc. spread.
  - b. *Ls. cottony, white below.*
3. St. branched, cottony—Ls. (8-18 in.) lanc. serr., white beneath—Head (1½-2 in.) not prickly.
  - × Hybrid with 8 has been found—Ls. much divided—Heads smaller.
4. Stemless or very short—Ls. pinnfid., glab.—Head sol. ( $\frac{3}{4}$ -1 in.), ovoid, glab.
  - b. *Stem 6-18 in. high, leafy.*
5. Not prickly—St. nearly leafless—Root fibrous—Ls. (variable) lanc., wavy, ciliated—Invol. glob. (1-1¼ in.) cottony, bract adpressed.—*C. anglicum* DC.
6. St. nearly leafless, rootstock of tuberous fibres—Ls. deeply pinnfid., ciliate—Invol. (1-1¼ in.) ovate, bract adpressed, glab.—Very rare.
7. Rootstock creeping—Stem not winged—Ls. pinnfid.—Head ( $\frac{1}{2}$ -1 in.) ovoid, glab., corymbose, numerous.
  - b. *Ls. broader, glab.—Less prickly.*
  - c. *Ls. obl. lanc. obt., sinuate-lobed, margin setose—Scarcely prickly.*
8. Stem winged—Ls. pinnfid.—Heads ( $\frac{1}{2}$  in.) clustered—Invol. bract, ov. lanc. adpressed.

Gen. XXX. *Onopordon*.

1. St. erect, branched, with spinous wings—Ls. ov. obl. sinuate, woolly on both sides.
  - b. *Ls. green above.*

Gen. XXXI. *Silybum* 1763 = *Mariana* 1762.

- \*1. St. ribbed—Ls. large, veined with white—Head (1-2 in.) glob. sol.

Gen. XXXII. *Saussurea*.

1. Ls. obl. lanc., toothed, cottony below—Heads (heliotrope-scented) in dense term. corymb.—On sea cliff N. Scot., and on mountains.

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.                           | Common Name.                       | Soil<br>or<br>Situation. | Colour.    | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|------------------------------------|--------------------------|------------|-----------|--|
| <b>Gen. XXXIII. <i>Serratula</i> L.</b>   |                                    |                          |            |           |  |
| 1. <i>S. tinctoria</i> L. . . .           | <i>Sawwort</i> . . .               | Downs, etc. .            | Pu.        | 3-36 in.  | P. 7-9                                   |
| <i>b. alpina</i> Gren. &<br>Godr.         | . . . . .                          | . . . . .                | . .        | 2-12      | . .                                      |
| <i>c. integrifolia</i> Koch               | . . . . .                          | . . . . .                | . .        | . .       | . .                                      |
| <b>Gen. XXXIV. <i>Centaurea</i> L.</b>    |                                    |                          |            |           |  |
| * . . . . .                               |                                    |                          |            |           |  |
| 1. <i>C. Jacea</i> L. . . . .             | . . . . .                          | Past. V. R. .            | Pu.        | 12-18 in. | P. 7-9                                   |
| 2. <i>C. nigra</i> L. . . . .             | <i>Hardhead</i><br><i>Knapweed</i> | Grassy pl. .             | Pu.        | 6-36 in.  | P. 6-9                                   |
| <i>b. radiata</i> . . . . .               | . . . . .                          | . . . . .                | . .        | . .       | . .                                      |
| <i>c. decipiens</i> Syme .                | . . . . .                          | Calc downs .             | . .        | 6-18 in.  | . .                                      |
| 3. <i>C. Cyanus</i> L. . . . .            | <i>Cornflower</i> . .              | Corn fie. . .            | B.         | 1-2 ft.   | A. 6-8                                   |
| 4. <i>C. Scabiosa</i> L. . . .            | <i>Great Knapweed</i>              | Cult. gr. etc.           | Pu.        | 1-3 ft.   | P. 7-9                                   |
| <i>b. Gelmii</i> Briq. . . .              | . . . . .                          | Coasts. R. .             | . .        | . .       | . .                                      |
| *5. <i>C. paniculata</i> L. . .           | . . . . .                          | Sandy slopes,<br>Jersey  | ro.<br>Pu. | 6-18 in.  | . .                                      |
| * * . . . . .                             |                                    |                          |            |           |  |
| *6. <i>C. Solstitialis</i> L. .           | <i>Yell. Star thistle</i>          | Cult. gr. . .            | Y.         | 1-3 ft.   | A. 7-10                                  |
| 7. <i>C. Calcitrapa</i> L. . .            | <i>Star thistle</i> . .            | W. pl. . . .             | ro.<br>Pu. | 6-24 in.  | A. 7-8                                   |
| 8. <i>C. aspera</i> L. . . . .            | <i>Jersey S.</i> . . . .           | Sandy pl. Ch.<br>Isl.    | R.         | 1-2 ft.   | P. 6-9                                   |
| <b>Gen. XXXV. <i>Cichorium</i> L.</b>     |                                    |                          |            |           |  |
| 1. <i>C. Intybus</i> L. . . .             | <i>Chicory</i> . . . .             | Roadsides,<br>cult. gr.  | B.         | 1-3 ft.   | P. 7-10                                  |
| <b>Gen. XXXVI. <i>Arneris</i> Gaertn.</b> |                                    |                          |            |           |  |
| 1. <i>A. minima</i> S. & K.               | <i>Lamb's Succory</i>              | Cult. gr. R. .           | Y.         | 4-12 in.  | A. 6-7                                   |
| <b>Gen. XXXVII. <i>Lapsana</i> L.</b>     |                                    |                          |            |           |  |
| 1. <i>L. communis</i> L. . .              | <i>Nipplewort</i> . .              | W. pl. . . .             | Y.         | 1-3 ft.   | A. 7-9                                   |
| <b>Gen. XXXVIII. <i>Picris</i> L.</b>     |                                    |                          |            |           |  |
| 1. <i>P. Echioides</i> L. . . .           | <i>Ox-tongue</i> . .               | Hedges, sha.<br>pl.      | Y.         | 2-3 ft.   | A. 6-10                                  |
| 2. <i>P. Hieracioides</i> L. .            | <i>Hawkweed</i> O. .               | Dry, sunny<br>pl.        | Y.         | 1-3 ft.   | B. 6-10                                  |
| <i>b. umbellata</i> Schultz               | . . . . .                          | . . . . .                | . .        | . .       | . .                                      |
| <i>c. gracilis</i> (Jord.) . .            | . . . . .                          | . . . . .                | . .        | 9-18 in.  | . .                                      |
| <i>d. incana</i> Druce . . .              | . . . . .                          | Alderney. R.             | . .        | 1-2 ft.   | . .                                      |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXXIII. Serratula.**

1. Ls. lyr. pinnfid., finely serr.—Head obl., corymb.  
*b. Heads larger, sub-sessile.*

*c. As type, but ls. simp., subent.*

**Gen. XXXIV. Centaurea.**

*\* Invol. not spinous.*

1. Phyll. appendages ent. or rarely cut.
2. Phyll. appendages pectinate with sub. teeth—Invol. bract, blackish brown.

*b. Flowers rayed.*

*c. Flowers rayed—Invol. bract light br.—Fl. rose col.—Branches slender.*

3. Ls. lin. lanc. ent. ; lower toothed—Invol. bract with pect. marg.—Fl. blue.
4. Ls. pinnfid. ; seg. lanc.—Invol. bracts with ciliate downy margins—Fl. purp.  
*b. Ls. lanc. nearly entire, irreg. lobed—Sutherland and Glamorgan Coast.*
- \*5. St. rigid, wiry, cottony—Lower ls. pinnfid., seg. lin.—Heads cyl. obl.—Jersey,  
 Rare.

*\* \* Involucre spinous.*

- \*6. Head term. sol.—Ls. lin. lanc. hoary—Cent. invol. spine long, slender—Fl. yellow.
7. Head lat. sess.—Ls. deeply pinnfid.—Cent. invol. spine long, channelled—Fl. rose purple.
8. Ls. variable—Pedunc. leafy—Head term. sol.—Invol. glob., the bract tipped with 5 spread. weak spines.

**Gen. XXXV. Cichorium.**

1. St. strong, erect, viscid—Lower ls. runc. ; upper lanc. amplex.—Heads axill. in pairs.

**Gen. XXXVI. Arnoseris.**

1. St. fistulous upwards—Ls. in a rosette, obov. obt. toothed—Heads ( $\frac{1}{3}$  in.).

**Gen. XXXVII. Lapsana.**

1. St. branched, panicled—Ls. lyr. pinnfid. ; upp. ls. ent.

**Gen. XXXVIII. Picris.**

1. St. stout, hispid, with hooked bristles from tuberc. base—Ls. upper cord. amplex., outer invol. bract cord. ; fr. beaked.
2. St. rough with hooked bristles ; Ls. lanc. toothed, outer invol. bract narrow--  
 Fr. not beaked—Heads corymbose.  
*b. Heads semi-umbellate.*  
*c. Pl. slender, erect—Ls. narrow, invol. bract lin. longly acum.*  
*d. Invol. bract covered with white tomentum—Heads sub-sess.*

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.  | Common Name.          | Soil<br>or<br>Situation.      | Colour.   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------|-------------------------------|-----------|----------|--|
| <b>Gen. XXXIX. <i>Crepis</i> L.</b>  | <i>Hawksbeard</i>     |                               |           |          |  |
| *<br>1. <i>C. mollis</i> <i>Asch.</i> . .<br>( <i>C. succisæfolia</i><br><i>Tausch.</i> ). | . . . .               | Shady pl. N.<br>of Brit. R.   | Y.        | 1-2 ft.  | P. 7-8                                   |
| 2. <i>C. paludosa</i> <i>Moench.</i>   | <i>Marsh H.</i> . .   | Moist, grassy<br>gr. N. Brit. | Y.        | 1-2 ft.  | P. 7-9                                   |
| 3. <i>C. biennis</i> L. . . .  | <i>Rough H.</i> . .   | W. pl. cult. gr.              | Y.        | 1-4 ft.  | B. 6-7                                   |
| *4. <i>C. nicæcensis</i> <i>Balb.</i>  | . . . .               | W. pl. cult. gr.              | Y.        | 1-3 ft.  | B. 7-8                                   |
| 5. <i>C. capillaris</i> <i>Wallr.</i><br>( <i>C. virens</i> L.)                            | <i>Smooth H.</i> . .  | W. pl. . . .                  | Y.        | 4-36 in. | P. 7-9                                   |
| <i>b. agrestis</i> ( <i>W. &amp;</i><br><i>K.</i> )  | . . . .               | . . . .                       | . .       | . .      | . .                                      |
| <i>c. diffusa</i> ( <i>DC.</i> ) .<br>* *  | . . . .               | . . . .                       | . .       | . .      | . .                                      |
| 6. <i>C. foetida</i> L. . . .  | <i>Stinking H.</i> .  | Shingle, Ch.<br>downs, etc.   | Y.        | 6-18 in. | B. 6-7                                   |
| 7. <i>C. taraxacifolia</i><br><i>Thuill.</i>   | . . . .               | Cult. gr. etc.                | Y.        | 1-3 ft.  | B. 6-7                                   |
| *8. <i>C. setosa</i> <i>Hall. f.</i> .   | . . . .               | Cult. gr. R. .                | Y.        | 1-2 ft.  | B. 7-8                                   |
| <b>Gen. XL. <i>Hieracium</i> L.</b>  | <i>Hawkweed</i>       |                               |           |          |  |
| 1. <i>H. Pilosella</i> L. . .  | <i>Mouse-ear H.</i> . | Dry bks. . .                  | p Y.      | 2-12 in. | P. 7-8                                   |
| <i>b. Peleterianum</i><br>( <i>Mér.</i> )  | . . . .               | . . . .                       | . .       | . .      | . .                                      |
| *2. <i>H. aurantiacum</i> L. .   | <i>Orange</i> . . .   | Railway bk.<br>etc.           | n.<br>(.) | 9-15 in. | P. 7-8                                   |
| 3. <i>H. alpinum</i> L. . .  | <i>Alpine</i> . . .   | Mts. . . .                    | Y.        | 4-10 in. | P. 7-8                                   |
| *4. <i>H. amplexicaule</i> L.  | . . . .               | Walls, Ox-<br>ford, etc. R.   | Y.        | 1-3 ft.  | P. 7-8                                   |
| 5. <i>H. murorum</i> L. . .  | . . . .               | Common . .                    | Y.        | 1-3 ft.  | P. 6-8                                   |
| 6. <i>H. prenanthoides</i> L.  | . . . .               | Riv. sides,<br>mts. etc.      | Y.        | 1-3 ft.  | P. 7-9                                   |
| 7. <i>H. boreale</i> <i>Fr.</i> . .  | . . . .               | Heaths, etc..                 | Y.        | 2-4 ft.  | P. 7-9                                   |
| 8. <i>H. umbellatum</i> L. .   | <i>Umbellate H.</i> . | Heathy pl. .                  | Y.        | 1-4 ft.  | P. 7-9                                   |

124 species of *Hieracium* are described in "The British Hieracia," by the Rev. W. R. Linton, to which work those wishing to study this highly critical genus are referred. It is impossible to condense the characters into the available space here. The names in that work, indeed, are being rapidly changed, as some appear to have been wrongly identified.

|                                       |                       |                                  |    |          |        |
|---------------------------------------|-----------------------|----------------------------------|----|----------|--------|
| <b>Gen. XLI. <i>Hypochæris</i> L.</b> | <i>Cat's-ear</i>      |                                  |    |          |        |
| 1. <i>H. maculata</i> L. . .          | <i>Spotted C.</i> . . | Sea cliffs and<br>calc. pl. V.R. | Y. | 6-15 in. | P. 6-8 |

ORD. XLI.—COMPOSITÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XXXIX. *Crepis*.\* *Fruit not beaked.*

1. Rad. ls. spath.—Upper ls. obl.  $\frac{1}{2}$  amplex.—Invol. bract glandular—Head (1 in.)—Pappus pure white, silky hairs.
2. Glab.—Rad. ls. obl.-lanc.; st. ls. oval.-lanc. amplex.—Invol. bract gland.—Head ( $\frac{3}{4}$ –1 in.)—Pappus of dirty white fragile hairs.
3. Hispid—Rad. ls. runc. lyr.; st. ls. lanc. sess.—Head ( $\frac{3}{4}$ –1 in.)—Inner inv. bract downy within—Fr. longer than pure white pappus.
- \*4. St. ls. sagitt. amplex., upper lanc. ent.—Fr. scabrous, shorter than pappus.
5. Glab. very variable—Rad. ls. lyr.; st. ls. lin. sagitt.—Inner bract of invol. glab. within—Fr. smooth, shorter than pappus—Heads ( $\frac{1}{4}$ – $\frac{3}{4}$  in.).
  - b. *St. erect, rough at base—Ls. sinuate-pinnfid.—Invol. and ped. with black hairs.*
  - c. *St. branched at base, diffuse—Heads smaller than type.*
- \* \* *Fruit beaked = Barkhausia Moench.*
6. St. round—Buds nodding—Cent. fr. long beaked—Odour strong.
7. St. angul. furrowed—Buds erect—All fr. beaked—Nearly odourless.
- \*8. St. angul. furrowed—Outer scales of invol. lin. spreading—Upper part of ped. and invol. bracts covered with stiff bristles.

Gen. XL. *Hieracium* L.

1. St. slend. leafless—Ls. ellip.-lanc. ent. downy—Fl. sol., stolons long.
  - b. *Pl. with long silky hairs—Fl. larger—Runners short.*
- \*2. St. leafy—Ls. ov. lanc. hairy—Fl. in corymb.—Reddish-orange—Naturalized.
3. Invol. shaggy, or silky—St. ls. few, or leaflike bracts—Ped. 1 flowered.
- \*4. Pl. yellowish gr. visc.-gland. with yell. headed setæ—St. ls. large amplex. with rounded auricles—A South European species.
5. Rad. ls. in rosette—St. ls. variable—Outer invol. bracts few and short.
6. No rad. ls.—Outer invol. bracts many imbric.—Stem leafy.
7. No rosette of ls.—Stem leafy—Invol. blackish gr., nearly glab.—Style black.
8. No rad. ls.—Stem ls. numerous, lin. or obl. lanc., narrower below sessile—Invol. bract dk. green glab. with recurved points—Style yell.

Gen. XLI. *Hypochæris*.

1. St. simp. or with 2 branches, glab.—Ls. spath. toothed, spotted, scab. sess. broad ( $1\frac{1}{2}$ –2 in.)—Fl. 2–2 $\frac{1}{2}$  in. across—Invol. hemispher. hairy—Outer pappus 0—Very rare.



ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.                                    | Common Name.           | Soil<br>or<br>Situation.                    | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|---|---------|-----------|--|
| <b>Gen. XLI. Hypochæris L. (<i>continued</i>).</b> |                        |   |         |           |  |
| 2. <i>H. radicata</i> L. . .                       | <i>Long-rooted C.</i>  | Very common,<br>mead. past.<br>heaths, etc. | Y.      | 6-18 in.  | P. 6-9                                   |
| <i>b. hispida</i> Peterm.                          | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <i>c. leioccephala</i> Regel.                      | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <i>d. minor</i> S. & B..                           | . . . .                | Dry heathy pl.                              | . .     | 1-3 in.   | P. 6-9                                   |
| 3. <i>H. glabra</i> L. . . .                       | <i>Smooth C.</i> . .   | Bare hea. L.                                | Y.      | 1-9 in.   | A. 6-8                                   |
| <i>b. erostris</i> C. & G.                         | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <i>c. rostrata</i> C. & G.                         | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <b>Gen. XLII. Leontodon L.</b>                     |                        |   |         |           |  |
| * <i>Hawksbit</i>                                  |                        |   |         |           |  |
| 1. <i>L. hispidus</i> L. . .                       | <i>Rough H.</i> . .    | Past. etc. . .                              | Y.      | 6-18 in.  | P. 6-9                                   |
| <i>b. hastilis</i> (L.). .                         | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| 2. <i>L. autumnalis</i> L. .                       | <i>Autumnal H.</i> .   | Past. etc. . .                              | Y.      | 3-24 in.  | P. 7-10                                  |
| <i>b. pratensis</i> Koch.                          | . . . .                | Mts. . . .                                  | . .     | 3-9 in.   | P. 7-9                                   |
| <i>c. sordidus</i> Bab. .                          | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| * *  |                        |   |         |           |  |
| 3. <i>L. nudicaulis</i> Banks                      | . . . .                | Dry grav. and                               | Y.      | 3-9 in.   | P. 7-8                                   |
| ( <i>L. hirtus</i> , <i>L.</i>                     |                        | sandy pl. L.                                |         |           |  |
| <i>Thrincia hirta</i>                              |                        |   |         |           |  |
| <i>Roth.</i> )                                     |                        |   |         |           |  |
| <i>b. lasiolenæ</i> Druce                          | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <i>c. Pristis</i> Druce .                          | . . . .                | Guernsey . .                                | . .     | . .       | . .                                      |
| <b>Gen. XLIII. Taraxacum Weber</b>                 |                        |   |         |           |  |
| 1. <i>T. paludosum</i> Sch. .                      | <i>Marsh Dandelion</i> | Dp. places . .                              | Y.      | 4-12 in.  | P. 6-9                                   |
| ( <i>T. palustre</i> DC.)                          |                        |   |         |           |  |
| 2. <i>T. vulgare</i> Lam. . .                      | <i>Dandelion</i> . .   | Grassy pl. . .                              | Y.      | 4-12 in.  | P. 3-8                                   |
| ( <i>T. officinale</i> W.)                         |                        |   |         |           |  |
| <i>b. lævigatum</i> (DC.)                          | . . . .                | Dry pl. . . .                               | Y.      | 2-6 in.   | P. 3-7                                   |
| <i>c. obliquum</i> (Jord.)                         | . . . .                | . . . .                                     | Y.      | 2-8 in.   | P. 3-7                                   |
| <i>d. intermedium</i> .                            | . . . .                | . . . .                                     | . .     | . .       | . .                                      |
| <b>Gen. XLIV. Lactuca L.</b>                       |                        |   |         |           |  |
| <i>Lettuce</i>                                     |                        |   |         |           |  |
| 1. <i>L. virosa</i> L. . . .                       | <i>Wild Lettuce</i> .  | W. pl. L. . .                               | Y.      | 3-5 ft.   | B. 7-8                                   |
| 2. <i>L. serriola</i> L. . . .                     | <i>Prickly L.</i> . .  | W. pl. R. . .                               | Y.      | 3-5 ft.   | B. 7-8                                   |
| 3. <i>L. saligna</i> L. . . .                      | <i>Least L.</i> . . .  | Shingle, etc. R.                            | Y.      | 12-18 in. | B. 7-8                                   |
| 4. <i>L. muralis</i> Fres. . .                     | <i>Wall L.</i> . . .   | Calc. woods,<br>walls, etc.                 | Y.      | 1-3 ft.   | A. 6-8                                   |
| 5. <i>L. alpina</i> Hook. f. .                     | <i>Alp. Sowthistle</i> | Alp. roc. V.R.                              | B.      | 2-4 ft.   | A. 6-8                                   |
| ( <i>Mulgedium</i> )                               |                        |   |         |           |  |

ORD. XLI.—COMPOSITÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XLI. *Hypochæris* (*continued*).

2. St. branched—Ls. runc. obt.—Outer pappus very short—Fruit all beaked—Invol. shorter than floret.
  - b. Plant hispid.*
  - c. Invol. bracts glabrous.*
  - d. Plant very small.*
3. St. branched, glab.—Ls. obl., dent. sin.—Invol. longer than floret.—Inner fr. beaked.
  - b. None of the fruits beaked.*
  - c. All the fruits beaked = H. Balbisii Lois.*

Gen. XLII. *Leontodon*.\* *Pappus feathery.*

1. Ls. runc. hisp.—Stem simp. 1 flowered—Invol. hairy.
  - b. Ls. glab.—Not native—Rare.*
2. Ls. lanc. toothed, glab.—Stem branched, 2 or more fls.—Invol. g'ab. or slightly hairy.
  - b. Ls. glab. narrow—Stalk sub-simp.—Invol. clothed with gr. black hairs.*
  - c. Ls. hairy—Stem branched—Invol. clothed with long dk. hairs.*
  - \* \* *Pappus of exterior fruits scaly = Thrincia Roth.*
3. Ls. lanc. hisp.—Stem 1 flowered—Invol. glab.
  - b. Invol. hairy.*
  - c. Ls. deeply and regularly cut like a sawfish.*

Gen. XLIII. *Taraxacum*.

1. Ls. dull gr., runc. pinnfid., seg. broad—Outer invol. bract spread. or erect, inner simp.
2. Ls. bright green, runc. pinnfid.—Outer invol. bract recurved.
  - b. Ls. more deeply cut—Fl. paler yell.—Fr. crimson-red.*
  - c. Ls. more or less cut—Outer phyll. erect pat. ov.—Fr. pale.*
  - d. Approaches sp. 1—Outer bract more erect.*

Gen. XLIV. *Lactuca*.

1. Scab.—Ls. spreading, obov. toothed—Beak equalling the black fr.
2. Scab.—Ls. erect, lanc. sinu., sagitt.—Beak equalling the grey fr.
3. Glab.—Ls. lin. ent. acum. sagitt.—Beak twice as long as fr.
4. Glab.—Ls. lyr., pinnfid.; term. lobe large, angled—Beak much shorter than fr.
5. Glab.—Ls. lyr. sagitt.; term. lobe large, delt.—Fl. blue—Infl. gland., pilose.

ORD. XLI.—COMPOSITÆ (*continued*).

| Botanical Name.                           | Common Name.              | Soil<br>or<br>Situation. | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|---|---------------------------|--------------------------|---------|---------|--|
| <b>Gen. XLV. Sonchus</b> <i>L.</i>        | <i>Sowthistle</i>         |                          |         |         |  |
| 1. <i>S. palustris</i> <i>L.</i> . . .    | <i>Marsh S.</i> . . .     | Mar. V. R. . .           | Y.      | 5-9 ft. | P. 7-8                                   |
| 2. <i>S. arvensis</i> <i>L.</i> . . .     | <i>Corn S.</i> . . .      | Corn fie. . .            | Y.      | 3-4 ft. | P. 8-9                                   |
| <i>b. glabrescens</i>                     | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |
| <i>G. G. W.</i>                           | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |
| <i>c. angustifolius</i>                   | . . . . .                 | Seaside, etc.            | . . .   | . . .   | . . .                                    |
| <i>Meyer</i>                              | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |
| 3. <i>S. asper</i> <i>Hill</i> . . .      | <i>Rough S.</i> . . .     | Wa. pl. . .              | ♂Y.     | 1-3 ft. | A. 6-8                                   |
| 4. <i>S. oleraceus</i> <i>L.</i> . . .    | <i>Common S.</i> . . .    | Wa. pl. . .              | ♂Y.     | 1-3 ft. | A. 6-8                                   |
| <b>Gen. XLVI. Trago-</b>                  |                           |                          |         |         |  |
| <b>pogon</b> <i>L.</i>                    |                           |                          |         |         |  |
| *1. <i>T. porrifolius</i> <i>L.</i> . . . | <i>Salsify</i> . . .      | W. pl. R. . .            | Pu.     | 1-2 ft. | P. 5-7                                   |
| <i>b. parviflorus</i> <i>Syme</i>         | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |
| 2. <i>T. pratensis</i> <i>L.</i> . . .    | <i>Goat's-beard</i> . . . | Waysides, etc.           | Y.      | 1-2 ft. | B. 6-7                                   |
| <i>b. minus</i> ( <i>Mill.</i> ) . . .    | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |
| <i>c. grandiflorus</i> <i>Syme</i>        | . . . . .                 | . . . . .                | . . .   | . . .   | . . .                                    |

## ORD. XLII.—CAMPANULACEÆ.

|  |                          |                      |           |           |        |
|--|--------------------------|----------------------|-----------|-----------|--------|
| <b>Gen. I. Lobelia</b> <i>L.</i>         | <i>Lobelia</i>           |                      |           |           |        |
| 1. <i>L. Dortmanna</i> <i>L.</i> . . .   | <i>Water L.</i> . . .    | Mt. lakes. . .       | ♂B.       | 12-18 in. | P. 7-8 |
| 2. <i>L. urens</i> <i>L.</i> . . .       | <i>Acrid L.</i> . . .    | Heath. R. . .        | B.        | 9-24 in.  | P. 8-9 |
| <b>Gen. II. Jasione</b> <i>L.</i>        |                          |                      |           |           |        |
| 1. <i>J. montana</i> <i>L.</i> . . .     | <i>Sheep's Scabious</i>  | Sandy pl.,<br>heaths | B.        | 6-10 in.  | A. 6-9 |
| <i>b. major</i> <i>Koch</i> . . .        | . . . . .                | Mt. cliffs, etc.     | . . .     | . . .     | . . .  |
| <i>c. littoralis</i> <i>Fries.</i>       | . . . . .                | Coast sands . . .    | . . .     | . . .     | . . .  |
| <b>Gen. III. Wahlenbergia</b>            |                          |                      |           |           |        |
| <i>Schrad.</i>                           |                          |                      |           |           |        |
| 1. <i>W. hederacea</i> <i>Sch.</i> . . . | <i>Ivy-leaved Bell-</i>  | Moi. wds. and        | ♂B.       | Cr.       | P. 7-8 |
| ( <i>Cervicina hederacea</i>             | <i>flower</i>            | turfy pl. <i>L.</i>  |           |           |        |
| <i>Druce</i> )                           |                          |                      |           |           |        |
| <b>Gen. IV. Phyteuma</b> <i>L.</i>       | <i>Rampion</i>           |                      |           |           |        |
| 1. <i>P. orbiculare</i> <i>L.</i> . . .  | <i>Round-l. R.</i> . . . | Chalk downs.         | B.        | 4-15 in.  | P. 7-8 |
| 2. <i>P. spicatum</i> <i>L.</i> . . .    | <i>Spiked R.</i> . . .   | Woods. R. . .        | gr.<br>W. | 1-3 ft.   | P. 6-7 |



ORD. XLI.—COMPOSITÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XLV. Sonchus.**

1. Perenn.—Rootstock branched—Lower ls. runc., minutely toothed; upper ls. ent. sagitt.—Heads ( $\frac{3}{4}$ –1 in.).
2. Perenn.—Rootstock creeping—Lower ls. runc., sharply toothed; upper ls. ent. cord.—Heads (1–2 in.).
  - b. Pl. and ped. glab.*
  - c. Ls. long, narrow.*
3. Ann.—Ls. ent. or pinnfid.; auricles rounded—Fr. ribbed, not transversely wrinkled—Variable.
4. Ann.—Ls. ent. or pinnfid.; auricles arrow-shaped—Fr. ribbed and transversely wrinkled—Variable.

**Gen. XLVI. Tragopogon.**

- \*1. Ls. glab. acum., channelled—Pedun. much thickened—Fl. purple.
  - b. Invol. twice as long as florets.*
2. Ls. as 1—Pedunc. slightly thickened—Invol. equalling florets—Fl. yell.
  - b. Invol. longer than florets—Common.*
  - c. Invol.  $\frac{1}{2}$  as long as florets—Rare.*

## ORD. XLII.—CAMPANULACEÆ.

**Gen. I. Lobelia.**

1. St. simp.—Ls. all rad., submerged, cylind. of 2 parallel tubes.
2. St. erect, leafy—Rad. ls. ob.-ov.—Upper lan. sess.—Devon, Cornwall.

**Gen. II. Jasione.**

1. Ls. obt., wavy, blunt—Fl. sm. in term. hemisph. heads.
  - b. Pl. robust, less branched—Heads lge. ( $\frac{3}{4}$ –1 in.).*
  - c. Pl. weak, diffuse—Fl. heads very small.*

**Gen. III. Wahlenbergia = Cervicina Del. (*the oldest name*).**

1. St. fili.—Ls. alt. stalked, cord., lobed, glab.—Pedunc. sol.

**Gen. IV. Phyteuma.**

1. Heads of fl. glob., blue; of fr. oval—Chalk downs in S. E.
2. Heads of fl. obl. cyl., yellowish-white; of fr. elongate—Sussex woods.

ORD. XLII.—CAMPANULACEÆ (*continued*).

| Botanical Name.                             | Common Name.                               | Soil<br>or<br>Situation.      | Colour.                   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--|-------------------------------|---------------------------|-----------|--|
| <b>Gen. V. Campanula</b> <i>L.</i>          | <i>Bell-flower</i>                         |                               |                           |           |  |
| 1. <i>C. glomerata</i> <i>L.</i> . . .      | <i>Clustered B.</i> . . .                  | Calc. past.<br>and downs      | B.                        | 2-18 in.  | B. 7-8                                   |
| 2. <i>C. latifolia</i> <i>L.</i> . . .      | <i>Throatwort</i> . . .                    | Bushy pl. . .                 | B.<br>or <i>p.</i><br>Pu. | 3-5 ft.   | P. 7-8                                   |
| 3. <i>C. Trachelium</i> <i>L.</i> . . .     | <i>Nettle-leaved B.</i>                    | Woods . . .                   | B.                        | 1-3 ft.   | P. 7-9                                   |
| 4. <i>C. Rapunculoides</i> <i>L.</i>        | <i>Creeping B.</i> . . .                   | Woods, way-<br>sides, etc. R. | B.                        | 1-2 ft.   | P. 7-8                                   |
| 5. <i>C. rotundifolia</i> <i>L.</i> . . .   | <i>Harebell</i> . . .                      | Heathy pl. . .                | B.                        | 6-24 in.  | P. 7-9                                   |
| <i>b. lancifolia</i> <i>M. &amp; K.</i>     | . . . . .                                  | Mt. pl. . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>c. hirta</i> <i>M. &amp; K.</i>          | . . . . .                                  | . . . . .                     | . . . . .                 | . . . . . | . . . . .                                |
| <i>d. speciosa</i> <i>More</i> . . .        | . . . . .                                  | Irel., Scot. R.               | . . . . .                 | . . . . . | . . . . .                                |
| *6. <i>C. persicifolia</i> <i>L.</i> . . .  | . . . . .                                  | Downs, heaths<br>plants. R.   | B.                        | 1-2 ft.   | B. 6-7                                   |
| *7. <i>C. Rapunculus</i> <i>L.</i> . . .    | <i>Rampion</i> . . .                       | Waysides. R.                  | B.                        | 1-2 ft.   | P. 7-8                                   |
| 8. <i>C. patula</i> <i>L.</i> . . . . .     | <i>Spreading B.</i> . . .                  | Thickets. R.                  | <i>pu.</i><br>B.          | 1-3 ft.   | A. 7-9                                   |
| <b>Gen. VI. Legousia</b> <i>Dur.</i>        |  |                               |                           |           |  |
| 1. <i>L. hybrida</i> <i>Del.</i> . . . .    | <i>Corn Venus'</i><br><i>Looking-glass</i> | Cornfields . .                | Pu.                       | 6-10 in.  | A. 7-9                                   |
| ( <i>Specularia hybrida</i><br><i>DC.</i> ) |  |                               |                           |           |  |

## ORD. XLIII.—VACCINIACEÆ.

|  |   |                         |                  |           |           |
|--|---|-------------------------|------------------|-----------|-----------|
| <b>Gen. I. Vaccinium</b> <i>L.</i>   |   |                         |                  |           |           |
| 1. <i>V. uliginosum</i> <i>L.</i> . . .  | <i>Mt. Blaeberry</i> . . .  | Mt. bogs. L.            | <i>p.</i><br>Pk. | 6-18 in.  | Sh. 5-6   |
| 2. <i>V. Myrtillus</i> <i>L.</i> . . .   | <i>Bilberry, Blae-<br/>berry, Huckle-<br/>berry, Whortle-<br/>berry</i> | Heaths . . .            | Ro.              | 6-24 in.  | Sh. 4-6   |
| <i>b. microphyllum</i><br><i>Druce</i>   | . . . . .   | Mt. . . . .             | . . . . .        | 2-4 in.   | . . . . . |
| × <i>Vitis-idæa</i> . . . . .  | . . . . .   | . . . . .               | . . . . .        | . . . . . | . . . . . |
| 3. <i>V. Vitis-idæa</i> <i>L.</i> . . .  | <i>Cowberry</i> . . .   | Mt. heaths . .          | <i>p.</i><br>Pk. | 6-18 in.  | Sh. 6-8   |
| <b>Gen. II. Oxycoccus</b> <i>Hill</i>  |   |                         |                  |           |           |
| 1. <i>O. quadripetalus</i> <i>Gil.</i><br>( <i>Vaccinium Oxycoc-<br/>cus</i> <i>L.</i> ) | <i>Cranberry</i> . . .  | Peat bogs. L.           | R.               | Cr.       | Sh. 7-8   |
| *2. <i>O. macrocarpus</i> <i>Pers.</i>   | <i>American C.</i> . .  | Peat bogs,<br>Flint. R. | R.               | Cr.       | Sh. 7-8   |

ORD. XLII.—CAMPANULACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. V. Campanula.**

1. St. simp. ang.—Ls. scab. obl.-lanc. ; stem ls. semi-amplex.—Fl. erect, sess. in term. and axill. clusters—Plant on downs nr. sea, dwarfed to 2 in. with sing. fl.
2. St. erect, simp., furrowed, leafy—Ls. ov. lanc., doubly serr.—Ped. 1-flowered—Cal. seg. lin.
3. St. ang., rough—Ls. coarsely serr.—Ped. 2-3 flowered—Cal. seg. lanc. hispid.
4. Ls. scabr., unequally serr., lower long-stalked, up per lanc. sess.—Fl. unilat., drooping ( $1\frac{1}{4}$ – $1\frac{3}{4}$  in. long)—Cal. seg. lin. reflexed.
5. St. slender, glab.—Rad. ls. cord. ; st. ls. lin. or lanc.—Fl. rac. drooping.
  - b. Lower st. ls. broadly lanc.—Fl. sub-sol.*
  - c. Lower part of st. with rigid hairs.*
  - d. Flower very large ( $1\frac{3}{4}$  in. long)—Aran I., Hebrides.*
- \*6. Glab.—St. round, few-flowered—Rad. ls. obov., stalked ; st. ls. lin. sess., cal. seg. lanc., ent.—Corolla as broad as long ( $1$ – $1\frac{1}{4}$  in. diam.), open.
- \*7. Hispid—St. angled—St. ls. obl.-lanc.—Pan. narrow, erect, branches short—Cal. segm. narrow, ent.
8. St. ang. scabr.—Rad. ls. obov. ; st. ls. lin.—Pan. open, branched, divergent—Fl. long-stalked—Cal. seg. toothed at base—Fl. purplish-blue.

**Gen. VI. Legousia.**

1. St. erect, hispid—Ls. obl., waved—Fl. sess. axill.—Caps. angled—Lobe of cal. longer than cor.

## ORD. XLIII.—VACCINIACEÆ.

**Gen. I. Vaccinium.**

1. St. rigid—Ls. obov., ent. glauc. beneath—Fr. black, glauc.—North Brit. only.
2. St. erect, ang.—Ls. ov. serr. glab. deciduous—Fr. black, glauc.

*b. Ls. sm. like Salix herbacea, pl. prost., stem buried—High exposed mt. places.*

× *A hybrid of 2 × 3 = V. intermedium Ruthe.—Ls. persistent elliptic-apic., denticulate—St. subterete—Rare, Staff. and Caithness.*

3. St. proc., woody—Ls. obov., deep shining gr. above, paler and glandular-punctate below—Marg. slightly revolute—Cor. campan.—Fr. red.

**Gen. II.—Oxycoccus.**

1. St. fili., creeping—Ls. sm. ( $\frac{1}{4}$ – $\frac{3}{8}$  in. long) ov. or ellip. ent., acute, deep shining gr. above, glauc. beneath marg. very revolute—Fl. term.—Cor. rotate 4-partite—Fr. red.
- \*2. Ls. obl. with flat margin—Fl. lateral—Fr. glob., large.



## ORD. XLIV.—ERICACEÆ.

| Botanical Name.   | Common Name.           | Soil<br>or<br>Situation.   | Colour.           | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|------------------------|----------------------------|-------------------|-----------|--|
| <b>Gen. I. Arbutus</b> <i>L.</i>  |                        |                            |                   |           |  |
| 1. <i>A. Unedo</i> <i>L.</i> . . .  | <i>Strawberry Tree</i> | Woods, I. .                | Cm.               | 8-12 ft.  | T. 9-10                                  |
| <b>Gen. II. Arctostaphylos</b><br><i>Adans</i>                              |                        |                            |                   |           |  |
| 1. <i>A. Uva-ursi</i> <i>Spr.</i> . .                                       | <i>Bearberry</i> . .   | Sc. heaths .               | Pk.               | 4-24 in.  | Sh. 5-7                                  |
| 2. <i>A. alpina</i> <i>Spr.</i> . .   | <i>Alpine B.</i> . .   | Sc. mts. R. .              | W.                | 3-12 in.  | Sh. 6-8                                  |
| <b>Gen. III. Andromeda</b> <i>L.</i>  |                        |                            |                   |           |  |
| 1. <i>A. Polifolia</i> <i>L.</i> . .  | <i>Marsh A.</i> . .    | Peat bogs. R.              | Ro.               | 3-18 in.  | Sh. 6-7                                  |
| <b>Gen. IV. Calluna</b> <i>Salisb.</i>                                      |                        |                            |                   |           |  |
| 1. <i>C. vulgaris</i> <i>Hull.</i> . .                                      | <i>Ling, Heather</i> . | Heaths . .                 | <i>pu.</i><br>Ro. | 1-4 ft.   | Sh. 7-9                                  |
| <i>b. incana</i> <i>Reichb.</i> . .   | . . . .                | . . . .                    | . .               | . .       | . .                                      |
| <b>Gen. V. Erica</b> <i>L.</i><br>*   | <i>Heath, Heather</i>  |                            |                   |           |  |
| 1. <i>E. cinerea</i> <i>L.</i> . . .  | <i>Heather</i> . . .   | Heaths . .                 | Cr.               | 1-3 ft.   | Sh. 7-9                                  |
| 2. <i>E. Tetralix</i> <i>L.</i> . .   | <i>Cross-leaved H.</i> | Wet heaths .               | <i>p.</i><br>Ro.  | 1-2 ft.   | Sh. 7-9                                  |
| <i>b. Mackayi</i> ( <i>Hook.</i> )  | . . . .                | . . . .                    | Ro.               | . .       | . .                                      |
| 3. <i>E. ciliaris</i> <i>L.</i> . . .                                       | <i>Ciliate H.</i> . .  | Heath. R. S.<br>W. of E.   | Cr.               | 12-18 in. | Sh. 6-9                                  |
| × <i>Tetralix</i> . . .   | . . . .                | . . . .                    | . .               | . .       | . .                                      |
| * *   |                        |                            |                   |           |  |
| 4. <i>E. vagans</i> <i>L.</i> . . .   | <i>Cornish H.</i> . .  | Heath. L.<br>Cornwall      | Pk.               | 1-3 ft.   | Sh. 7-8                                  |
| 5. <i>E. mediterranea</i> <i>L.</i> . .<br>( <i>hibernica</i> <i>Syme</i> ) | <i>Irish H.</i> . . .  | Wet heaths,<br>W. of I. L. | <i>p.</i><br>Pk.  | 1-5 ft.   | Sh. 3-5                                  |
| <b>Gen. VI. Loiseleuria</b><br><i>Desv.</i>                                 |                        |                            |                   |           |  |
| 1. <i>L. procumbens</i> <i>Desv.</i>  | <i>Mt. Azalea</i> . .  | Sc. mt. L. .               | Pk.               | 2-4 in.   | Sh. 5-7                                  |
| <b>Gen. VII. Bryanthus</b><br><i>Gmel.</i>                                  |                        |                            |                   |           |  |
| 1. <i>B. cæruleus</i> <i>Dip.</i> . .                                       | <i>Blue Heath</i> . .  | Sc. mt. V. R.              | <i>pu.</i><br>B.  | 5-10 in.  | Sh. 6-7                                  |
| <b>Gen. VIII. Dabœcia</b> <i>Don</i>  |                        |                            |                   |           |  |
| 1. <i>D. cantabrica</i> <i>Koch</i>   | <i>St. Dabeoc's H.</i> | Heath, W. of<br>I.         | <i>cr.</i><br>Pu. | 1-2 ft.   | Sh. 7-9                                  |
| <b>Gen. IX. Ledum</b> <i>L.</i>   |                        |                            |                   |           |  |
| *1. <i>L. palustre</i> <i>L.</i> . . .                                      | . . . .                | Heaths . .                 | W.                | 1-2 ft.   | Sh. 6-7                                  |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Arbutus.**

1. St. rough—Ls. evergreen, ellip. lanc. sess.—Fl. pend.—Fr. tubercled, sc. red.

**Gen. II. Arctostaphylos.**

1. Proc.—Ls. obov., everg. ent. coriac. shining—Fr. red.
2. Proc.—Ls. obov. or oblanc., doubly cren. serr. thin, wrinkled—Fr. black.

**Gen. III. Andromeda.**

1. Ls. alt. lan. glab. acute, glauc. beneath, marg. revolute.—Fl. drooping in sh. term. rac.

**Gen. IV. Calluna.**

1. Ls. sm. opp. imbri., in 4 rows—Fl. sm., drooping, shortly stalked.

*b. Ls. very hoary = pubescens* Hull.

**Gen. V. Erica.**

\* *Anthems included.*

1. Ls. 3 in a whorl, lin. keeled, glab.—Fl. in a dense whorled rac.
2. Ls. 4 in a whorl, lanc. downy above—Fl. sub-umbell. sep. lin. downy, ovary downy.  
*b. Ls. glab. above—Sep. ov. lanc. glab. ovary glab.—Nr. Roundstone.*
3. Ls. 4 in whorl, ov. cili.—Fl. showy, ventricose in term. unilat. rac.—St. straggling, ov. glab. asc.  
× *Hybrid of 2 × 3—Ls. narrower—Fl. sub-cap.—Truro, etc. = E. Watsoni.*
- \* \* *Anthems exserted.*
4. Ls. 4-5 in whorl, lin. glab.—Fl. axill. crowded—Cor. short, campan., anth. lateral, choc. coloured, much exserted.
5. Ls. 4 in whorl, lin. glab.—Fl. in dense rac.—Cor. urc.; anth.  $\frac{1}{2}$  exserted, terminal—Mayo, Galway.

**Gen. VI. Loiseleuria = Azalea.**

1. St. proc., woody—Ls. opp. coriac. lin. obl. revol.—Fl. term. aggreg.

**Gen. VII. Bryanthus = Menziesia.**

1. Ls. lin. toothed, rigid-coriac.—Fl. few, term., aggreg.—Cor. 5-cleft.

**Gen. VIII. Dabœcia Don. = Boretta Neck. (the older name).**

1. Ls. oval, cili., dk. gr. above, silvery white below—Fl. in term. leafy branches; cor. ( $\frac{2}{3}$  in.) 4-cleft—Fl. rarely pure white.

**Gen IX. Ledum.**

- \*1. Ls. lin. obl., marg. strongly recurved, red-felted below—Fl. in. term. clusters—Sta. longly exserted—Naturalized in Perthshire.

ORD. XLIV.—ERICACEÆ (*continued*).

| Botanical Name.                        | Common Name.            | Soil<br>or<br>Situation. | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|--------------------------|---------|----------|--|
| <b>Gen. X. Pyrola</b> <i>L.</i>        | <i>Winter-green</i>     |                          |         |          |  |
| 1. <i>P. rotundifolia</i> <i>L.</i> .  | <i>Round-leaved W.</i>  | Heaths, mts.<br>wood. R. | W.      | 8-12 in. | P. 7-9                                   |
| <i>b. maritima</i> ( <i>Kenyon</i> )   | .                       | Marit. sands             | .       | 3-6 in.  | .  |
| 2. <i>P. media</i> <i>Sw.</i> . . .    | <i>Intermed. W.</i> .   | Hea., etc. L.            | W.      | 8-12 in. | P. 6-7                                   |
| 3. <i>P. minor</i> <i>L.</i> . . .     | <i>Sm. W.</i> . . .     | Woods. . .               | W.      | 8-12 in. | P. 6-7                                   |
| 4. <i>P. secunda</i> <i>L.</i> . . .   | <i>Serrate W.</i> . . . | Mt. woods<br>and hea. L. | gW.     | 2-6 in.  | P. 7-8                                   |
| <b>Gen. XI. Moneses</b> <i>Salisb.</i> | <i>Winter-green</i>     |                          |         |          |  |
| 1. <i>M. uniflora</i> <i>Gray</i> .    | <i>One-fl. W.</i> . .   | Sc. wo. V. R.            | W.      | 1-3 in.  | P. 7-8                                   |

## ORD. XLV.—MONOTROPACEÆ.

|                                      |                          |             |    |          |        |
|--------------------------------------|--------------------------|-------------|----|----------|--------|
| <b>Gen. I. Hypopitys</b> <i>Hill</i> |                          |             |    |          |        |
| 1. <i>H. Monotropa</i> <i>Cr.</i> .  | <i>Yell. Bird's-nest</i> | Woods, L. . | Y. | 3-12 in. | P. 6-8 |
| <i>b. glabra</i> ( <i>Roth</i> ) .   | .                        | Dunes       | .  | .        | .      |

## ORD. XLVI.—PLUMBAGINACEÆ.

|   |                         |                         |                  |          |        |
|---|-------------------------|-------------------------|------------------|----------|--------|
| <b>Gen. I. Limonium</b> <i>Hill</i>     | <i>Sea Lavender</i>     |                         |                  |          |        |
| 1. <i>L. vulgare</i> <i>Mill.</i> . .   | <i>Sea Lavender</i> .   | Mud. salt ma.           | <i>b.</i><br>Pu. | 4-12 in. | P. 7-8 |
| ( <i>Statice Limonium</i> <i>L.</i> )   | .                       | .                       | .                | .        | .      |
| <i>b. pyramidale</i> <i>Druce</i>       | .                       | .                       | .                | .        | .      |
| × <i>humile</i> . . . .                 | .                       | .                       | .                | .        | .      |
| 2. <i>L. humile</i> <i>Mill.</i> . .    | <i>Remote fl. S. L.</i> | Mud. salt ma.           | <i>b.</i><br>Pu. | 4-12 in. | P. 7-8 |
| ( <i>St. bahusiensis</i> <i>Fr.</i> )   | .                       | .                       | .                | .        | .      |
| 3. <i>L. lychnidifolium</i>             | .                       | Sea ro., Ch.            | <i>bu.</i><br>B. | 4-12 in. | P. 6-7 |
| <i>Kuntze</i>                           | .                       | Is. V. R.               | .                | .        | .      |
| 4. <i>L. reticulatum</i> <i>Mill.</i>   | <i>Matted S. L.</i> .   | Salt ma. E.             | pLi.             | 4-8 in.  | P. 7-9 |
| ( <i>L. bellidifolium</i> <i>Dum.</i> ) | .                       | of E.                   | .                | .        | .      |
| 5. <i>L. binervosum</i> <i>Salm.</i>    | <i>Upright S. L.</i> .  | Rocky sh. .             | p.<br>Pu.        | 4-12 in. | P. 7-8 |
| <i>b. intermedium</i> <i>Druce</i>      | .                       | .                       | .                | .        | .      |
| <i>c. recurvum</i> ( <i>Salm.</i> ) .   | .                       | Portland .              | .                | .        | .      |
| ( <i>S. Dodartii</i> <i>Bab.</i> )      | .                       | .                       | .                | .        | .      |
| <b>Gen. II. Statice</b> <i>L.</i>       | <i>Thrift</i>           |                         |                  |          |        |
| 1. <i>S. plantaginea</i> <i>All.</i> .  | <i>Jersey T.</i> . . .  | Dry sandy pl.<br>Jersey | p.<br>Ro.        | 4-20 in. | P. 6-7 |
| <i>b. bracteata</i> <i>Druce</i>        | .                       | .                       | .                | .        | .      |
| 2. <i>S. maritima</i> <i>Mill.</i> .    | <i>Sea T.</i> . . .     | Sea shores and<br>mts.  | Ro.              | 2-12 in. | P. 4-9 |
| <i>b. linearifolia</i> ( <i>Lat.</i> )  | .                       | .                       | .                | .        | .      |
| <i>c. planifolia</i> <i>Druce</i> .     | .                       | Mts. . . .              | .                | .        | .      |



ORD. XLIV.—ERICACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. X. Pyrola.**

1. Sta. erect, shorter than decurved sty., which is bent at extremity.

*b. Ls. small—Stem bracteate—Near Southport.*

2. Sta. incurved, shorter than the decurved, straight style.
3. Sta. incurved, as long as the short, straight style.
4. Sta. shorter than the long, ascending style—Ls. serr.—Fl. unilat.

**Gen. XI. Moneses.**

1. Ls. few, round, serr.—Fl. sol. large ( $\frac{3}{4}$  in.) drooping.

## ORD. XLV.—MONOTROPACEÆ.

**Gen. I. Hypopitys = *Monotropa*.**

1. Pl. saprophytic cream white—St. scaly succ.—Fl. rac. hairy.  
*b. Fl. i.e. inside of pet. sep., filam, etc. glab.*

## ORD. XLVI.—PLUMBAGINACEÆ.

**Gen. I. Limonium = *Statice*.**

1. Ls. ellip. lanc., 1-ribbed—St. branched from above middle—Spikes short, dense flowered.  
*b. Spikes lax on a spreading pyram. corymb, with flexuous branches.*  
*× Hybrid of 1 × 2 = L. Neumanni—Occurs in Sussex, etc.*
2. Ls. obl. lanc., 1-ribbed—Stem branching from near the base—Spikes long, erect or incurved—Fl. distant.
3. Ls. obov. spath. thick, leathery, stalk 5-9 veined—Inner bract roundish, twice as long as outer, with red band and membran. border.
4. Ls. spath.—St. branched from base, upper branches flowering, lower barren tangled—Fl. small, crowded.
5. Ls. lanc.-spath., narrowed to stalk, which is 3-veined—St. branched from near the middle—Branches nearly all flowering—Inner bract oval, with broad memb. edges deeply tinged with pink.  
*b. All the branches flowering; spikelets stouter.*  
*c. Ls. obov. spath.—No sterile branches—Spikes stouter.*

**Gen. II. Statice = *Armeria*.**

1. Ls. lanc. 3-5 nerved—Cal. teeth long setaceous, bracts shorter than head.  
*b. Fl. heads with long bracts.*
2. Ls. lin. 1-nerved—Cal. teeth short—Tube constricted at mouth—Fr. hairy on and between the ribs.  
*b. Fruit hairy on ribs only—Ls. as type—Armeria vulgaris Willd.*  
*c. Ls. broader (1-3 nerved), flat*  
*Inner invol. scales broad abruptly truncate—Calyx tube not constricted at mouth, campanulate = S. planifolia Druce.*

## ORD. XLVII.—PRIMULACEÆ.

| Botanical Name.  | Common Name.                            | Soil<br>or<br>Situation. | Colour.    | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---|--------------------------|------------|----------|--|
| <b>Gen. I. Hottonia</b> <i>L.</i>  |   |                          |            |          |  |
| 1. <i>H. palustris</i> <i>L.</i> . . .   | <i>Water Violet</i> .                   | Ditches . . .            | Li.        | 1-2 ft.  | P. 5-7                                   |
| <b>Gen. II. Primula</b> <i>L.</i>  |   |                          |            |          |  |
| 1. <i>P. elatior</i> <i>Schreb.</i> . . .  | <i>Oxlip</i> . . . .                    | Woods E. of<br>Eng. L.   | pY.        | 4-12 in. | P. 4-5                                   |
| 2. <i>P. vulgaris</i> <i>Huds.</i> . . .   | <i>Primrose</i> . . .                   | Woods . . .              | pY.        | 4-8      | P. 3-5                                   |
| × <i>veris</i> . . . . .   | <i>False Oxlip</i> . .                  | . . . . .                | . .        | 4-12     | . .                                      |
| × <i>elatior</i> . . . . .   | . . . . .                               | Woods R. . .             | . .        | . .      | . .                                      |
| 3. <i>P. veris</i> <i>L.</i> . . . . .   | <i>Cowslip</i> . . . .                  | Past. . . . .            | Y.         | 4-12     | P. 5-6                                   |
| 4. <i>P. farinosa</i> <i>L.</i> . . . .  | <i>Bird's Eye P.</i> .                  | Moi. past. . .           | Li.        | 2-9 in.  | P. 5-7                                   |
| 5. <i>P. scotica</i> <i>Hook.</i> . . .  | <i>Scot. do.</i> . . . .                | Turfy pl.<br>nr. coast   | vi.<br>Pu. | 1-4 in.  | P. 6-7                                   |
| <i>b. acaulis</i> . . . . .  | . . . . .                               | . . . . .                | . .        | . .      | . .                                      |
| <b>Gen. III. Cyclamen</b> <i>L.</i>  |   |                          |            |          |  |
| *1. <i>C. hederifolium</i> <i>Ait.</i>   | <i>Cyclamen</i> . . .                   | Woods and<br>plantat. R. | Pk.        | 4-8 in.  | P. 8-9                                   |
| <i>b. ficariifolium</i> <i>Syme</i>  | . . . . .                               | . . . . .                | W.         | . .      | . .                                      |
| <b>Gen. IV. Lysimachia</b> <i>L.</i>   | <i>Loosestrife.</i>                     |                          |            |          |  |
| 1. <i>L. thyrsoflora</i> <i>L.</i> . . .   | <i>Tufted L.</i> . . .                  | Marshes N.<br>of Br. R.  | Y.         | 1-3 ft.  | P. 6-7                                   |
| 2. <i>L. vulgaris</i> <i>L.</i> . . .  | <i>Yellow L.</i> . . .                  | Wa'. pl. riv.<br>bks.    | Y.         | 2-3 ft.  | P. 7-8                                   |
| *3. <i>L. punctata</i> <i>L.</i> . . .   | <i>Punctate L.</i> . .                  | W. pl. R. . .            | Y.         | 1-1½ ft. | 6-7                                      |
| *4. <i>L. ciliata</i> <i>Ait.</i> . . .<br>( <i>Steironema cilia-</i><br><i>tum</i> <i>Rafn.</i> ) | <i>Ciliate L.</i> . . .                 | W. pl. R. . .            | pY.        | 1-3 ft.  | 6-7                                      |
| 5. <i>L. Nummularia</i> <i>L.</i> . .  | <i>Money-wort</i> . .                   | Damp pl. . .             | Y.         | 1-2 ft.  | P. 6-7                                   |
| 6. <i>L. nemorum</i> <i>L.</i> . . .   | <i>Yell. Pimpernel</i>                  | Woods. . . .             | Y.         | 3-12 in. | P. 5-8                                   |
| <b>Gen. V. Trientalis</b> <i>L.</i>  |   |                          |            |          |  |
| 1. <i>T. europæa</i> <i>L.</i> . . .   | <i>Chickweed</i><br><i>Winter-green</i> | Woods in N.<br>Brit.     | W.         | 2-8 in.  | P. 6-7                                   |
| <b>Gen. VI. Glaux</b> <i>L.</i>  |   |                          |            |          |  |
| 1. <i>G. maritima</i> <i>L.</i> . . .  | <i>Sea Milkwort</i> .                   | Salt. ma. . .            | Ro.        | 3-6 in.  | B. 6-7                                   |
| <b>Gen. VII. Anagallis</b> <i>L.</i>   | <i>Pimpernel.</i>                       |                          |            |          |  |
| 1. <i>A. femina</i> <i>Mill.</i> . . .   | <i>Blue P.</i> . . . .                  | Cult. gr. L. .           | B.         | 6-12 in. | A. 6-11                                  |
| 2. <i>A. arvensis</i> <i>L.</i> . . .  | <i>Scarlet P.</i> . . .                 | . . . . .                | Sc.        | . .      | . .                                      |
| 3. <i>A. tenella</i> <i>Murr.</i> . .  | <i>Bog P.</i> . . . .                   | Bogs . . . .             | Pk.        | 2-4 in.  | P. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Hottonia.**

1. Ls. submerged, pecti.—Fl. stem rising from water ; fls. ( $\frac{3}{4}$  in.) lilac with yell. eye.

**Gen. II. Primula.**

1. Ls. wrinkled—Fl. umbell., fl. horiz. or drooping—Cor. limb concave—Throat open without folds.
2. Ls. wrinkled—Ped. sing. fl., limb of cor. flat—Throat contracted with thick folds.  
 $\times$  a hybrid  $2 \times 3 = P. variabilis$ , Goup., distinguished from 1 by larger and usually deeper coloured flowers—Throat contracted as in 2.  
 $\times$  a hybrid of  $2 \times 1$ . Eastern Counties. Fl. larger and more erect than 1—Throat somewhat contracted = *P. pseud-elatior*.
3. Ls. wrinkled—Fl. umbell., drooping—Cor. spotted with orange at base.
4. Ls. gr. above, mealy below—Seg. of cor. distant as long as tube—Cal. teeth lin.—North of Eng. and S. of Scot.
5. Ls. gr. above, mealy below—Seg. of cor. contig.,  $\frac{1}{2}$  as long as tube—Cal. teeth ov. obt.—Turfy tops of sea cliffs, etc.—North Scotland.  
*b. Scape absent.*

**Gen. III. Cyclamen.**

- \*1. Ls. cord., ang., finely toothed, blotched—Fr. ped. rolled up spirally—Root a flattened tuber.  
*b. Flowers white.*

**Gen. IV. Lysimachia.**

1. St. erect—Ls. lanc. sess. opp.—Fl. sm. ( $\frac{1}{4}$  in.) in axill., dense rac.
2. St. erect—Ls. ov. lanc. opp. or whorled—Fl. ( $\frac{1}{4}$  in.) in term. and axill. pan.
- \*3. St. erect—Ls. ov. lanc. opp. or whorled, stalked, punctate—Fl. ( $\frac{3}{4}$  in.) cor. cili.—Naturalized.
- \*4. St. erect, stiff—Ls. ov. or ov. lanc., not punct., stalks cili.—Fl. ( $\frac{3}{4}$  in.)—Ped. axill.
5. St. prost., creeping—Ls. orb. obt.—Fl. ( $\frac{3}{4}$  in.) axill. sol. sep. ov., acute.
6. St. procumb.—Ls. ova., acute—Fl. ( $\frac{1}{2}$ – $\frac{2}{3}$  in.) sol.—Sep. lin.

**Gen. V. Trientalis.**

1. St. wiry with ls. mostly at top—Ls. obl. obov.—Cor. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.)—Fl. on slender stalk.

**Gen. VI. Glaux.**

1. St. procumb.—Ls. ov. opp. glab., fleshy—Fl. sess. axill.

**Gen. VII. Anagallis.**

1. Ls. ( $\frac{1}{2}$ – $1\frac{1}{2}$  in.) ov. sess.—Cor. ( $\frac{1}{3}$ – $\frac{1}{2}$  in.) blue, as long as calyx.
2. As 1—Cor. scarlet, flesh cold., etc., fringed.
3. Ls. ( $\frac{1}{8}$ – $\frac{1}{4}$  in.) round, sess.—Pet. much longer than cal. ent.



ORD. XLVII.—PRIMULACEÆ (*continued*).

| Botanical Name.                            | Common Name.            | Soil<br>or<br>Situation. | Colour.           | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|--------------------------|-------------------|----------|--|
| <b>Gen. VIII. Centunculus</b><br><i>L.</i> |                         |                          |                   |          |  |
| 1. <i>C. minimus L.</i> . . .              | <i>Chaff-weed</i> . . . | Moi. sandy pl.<br>R.     | <i>ph.</i><br>Ro. | 1-3 in.  | A. 6-7                                   |
| <b>Gen. IX. Samolus</b> <i>L.</i>          |                         |                          |                   |          |  |
| 1. <i>S. Valerandi L.</i> . . .            | <i>Brookweed</i> . . .  | Wet. pl. . . .           | W.                | 4-12 in. | P. 6-9                                   |

## ORD. XLVIII.—OLEACEÆ.

|                                     |                         |              |       |           |          |
|-------------------------------------|-------------------------|--------------|-------|-----------|----------|
| <b>Gen. I. Fraxinus</b> <i>L.</i>   |                         |              |       |           |          |
| 1. <i>F. elatior L.</i> . . . .     | <i>Ash</i> . . . . .    | Hedges, etc. | . . . | 50-80 ft. | Tree 4-5 |
| <i>b. diversifolia Ait.</i> . .     | . . . . .               | . . . . .    | . . . | . . .     | . . .    |
| <b>Gen. II. Ligustrum</b> <i>L.</i> |                         |              |       |           |          |
| 1. <i>L. vulgare L.</i> . . . .     | <i>Privet</i> . . . . . | Woods . . .  | W.    | 4-10 ft.  | Shb. 6-7 |

## ORD. XLIX.—APOCYNACEÆ.

|                                |                         |               |                  |         |        |
|--------------------------------|-------------------------|---------------|------------------|---------|--------|
| <b>Gen. I. Vinca</b> <i>L.</i> | <i>Periwinkle</i> . . . |               |                  |         |        |
| *1. <i>V. major L.</i> . . . . | <i>Great P.</i> . . . . | Hedges, etc.  | <i>b.</i><br>Pu. | 3-6 ft. | P. 4-6 |
| 2. <i>V. minor L.</i> . . . .  | <i>Small P.</i> . . . . | Thick. L. . . | <i>b.</i><br>Pu. | 1-2 ft. | P. 4-5 |

## ORD. L.—GENTIANACEÆ.

|  |                        |                           |       |          |         |
|--|------------------------|---------------------------|-------|----------|---------|
| <b>Gen. I. Microcala</b> <i>H. &amp; L.</i>                      |                        |                           |       |          |         |
| 1. <i>M. filiformis H. &amp; L.</i>                              | . . . . .              | San. bogs. L.<br>S. of E. | Y.    | 4-8 in.  | A. 7-10 |
| <b>Gen. II. Blackstonia</b><br><i>Huds.</i>                      |                        |                           |       |          |         |
| 1. <i>B. perfoliata Huds.</i>                                    | <i>Yellow wort</i> . . | Clay or calc.<br>past.    | Y.    | 4-18 in. | A. 6-9  |
| <b>Gen. III. Centaurium</b><br><i>Hill</i>                       |                        |                           |       |          |         |
| *  |                        |                           |       |          |         |
| 1. <i>C. umbellatum Gilib.</i><br>( <i>Erythræa Centaurium</i> ) | <i>Centaury</i> . . .  | Dry past. and<br>woods    | Ro.   | 6-18 in. | A. 6-9  |
| <i>b. capitatum Druce.</i>                                       | . . . . .              | Sea co. . . .             | . . . | 1-4 in.  | A. 6-9  |

ORD. XLVII.—PRIMULACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. VIII. *Centunculus*.

1. Ls. ( $\frac{1}{10}$ – $\frac{1}{8}$  in.) ov. alt. acu.—Fl. sol. axill. sess.

Gen. IX. *Samolus*.

1. Ls. obov., obt. ; fleshy—Rac. many flowered, erect—Rad. ls. in rosette.

## ORD. XLVIII.—OLEACEÆ.

Gen. I. *Fraxinus*.

1. Ls. pinn. ; lft. obl. lanc. serr., sess.—Sep. and pet. o.  
*b. Ls. simp.—Very rare.*

Gen. II. *Ligustrum*.

1. Ls. ellip. lanc. ent. glab., opp.—Fl. ( $\frac{1}{8}$ – $\frac{1}{4}$  in.), pan. (1–3 in.)—Berry glob., pu. black.

## ORD. XLIX.—APOCYNACEÆ.

Gen. I. *Vinca*.

- \*1. Ls. (2–4 in.) ov.—Cord. marg. cili.—Cor. salver-shaped ( $1\frac{1}{2}$ –2 in.)—Fl. st. prost. not rooting.  
 2. Ls. (1– $1\frac{1}{2}$  in.) ellip. lanc. marg. glab.—Cor. (1 in.)—St. prost. rooting.

## ORD. L.—GENTIANACEÆ.

Gen. I. *Microcala* = *Cicendia*.

1. St. slender, forked ; cal. camp.—Pedicels ( $\frac{1}{2}$ – $2\frac{1}{2}$  in.)—Cor. lobes obt. equalling tube—Caps. glob.

Gen. II. *Blackstonia* = *Chlora*.

1. Glau.—St. simp.—Ls. ov. conn.—Fl. ( $\frac{1}{2}$ – $\frac{1}{3}$  in.) bright yell.

Gen. III. *Centaurium* = *Erythræa*.

\* *Sta. from top of cor. tube.*

1. St. erect, simp. below.—Ls. ellip. obl.—Fl. corymb. panicled, sess. bracteate.  
*b. St. short.—Rad. ls. broadly ov.—Fl. compactly capitate.*

ORD. L.--GENTIANACEÆ (*continued*).

| Botanical Name.                                    | Common Name.                         | Soil<br>or<br>Situation.                       | Colour.          | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------------------|--|------------------|----------|--|
| <b>Gen. III. Centaurium</b>                        |                                      |  |                  |          |  |
| <i>Hill (continued).</i>                           |                                      |  |                  |          |  |
| 2. <i>C. vulgare</i> Raf. . . .                    | . . . .                              | Sea co. . . .                                  | Ro.              | 2-6 in.  | A. 6-9                                   |
| ( <i>E. littoralis</i> )                           |                                      |  |                  |          |  |
| [3. <i>C. latifolium</i> Druce                     | . . . .                              | Lanc. co. ext.                                 | Ro.              | 2-4 in.  | A. 7-8                                   |
| 4. <i>C. pulchellum</i> Druce                      | . . . .                              | Sandy pl. L.                                   | Ro               | 1-6 in.  | A. 6 9                                   |
| ( <i>E. ramosissima</i> )                          |                                      |  |                  |          |  |
| <i>b. tenuiflorum</i> (Link)                       | . . . .                              | I. of Wight. R.                                | . .              | 4-6 in.  | . .                                      |
| * *  |                                      |  |                  |          |  |
| 5. <i>C. capitatum</i> Druce                       | . . . .                              | Co. of S. Eng.                                 | Ro.              | 2-4 in.  | A. 7-8                                   |
| <b>Gen. IV. Cicendia</b>                           |                                      |  |                  |          |  |
| <i>Adans.</i>                                      |                                      |  |                  |          |  |
| 1. <i>C. pusilla</i> Griseb. . .                   | <i>Least C.</i> . . .                | Sand. com.<br>Guernsey.<br>V. R.               | <i>p.</i><br>Pk. | 1-2 in.  | A. 8-9                                   |
| <b>Gen. V. Gentiana L.</b>                         |                                      |  |                  |          |  |
| * <i>Gentian.</i>                                  |                                      |  |                  |          |  |
| 1. <i>G. Pneumonanthe</i> L.                       | <i>Marsh G.</i> . . .                | Bogs. L. . . .                                 | B.               | 4-18 in. | P. 8-9                                   |
| 2. <i>G. nivalis</i> L. . . .                      | <i>Sm. Scotch G.</i> . .             | Sc. mts. V. R.                                 | B.               | 1-6 in.  | A. 7-8                                   |
| 3. <i>G. verna</i> L. . . .                        | <i>Spring G.</i> . . .               | Peaty past. L.<br>Teesdale, Gal-<br>way, Clare | B.               | 1-3 in.  | P. 4-6                                   |
| * *  |                                      |  |                  |          |  |
| 4. <i>G. Amarella</i> L. . . .                     | <i>Autumn G.</i> . . .               | Calc. past. . .                                | <i>p.</i><br>Pu. | 2-12 in. | B. 8-9                                   |
| <i>b. præcox</i> (Raf.) . . .                      | . . . .                              |  |                  |          | 5-6                                      |
| 5. <i>G. germanica</i> Willd.                      | . . . .                              | Calc. pl. R. . .                               | <i>b.</i> Li.    | 2-12 in. | B. 8-9                                   |
| × <i>Pamplinii</i> Druce .                         |                                      |  |                  |          |  |
| 6. <i>G. campestris</i> L. . .                     | <i>Field G.</i> . . .                | Grassy pl. . .                                 | <i>b.</i><br>Pu. | 3-12 in. | B. 8-9                                   |
| <i>b. baltica</i> (Murb.) . .                      | . . . .                              | . . . .  | . .              | . .      | A.                                       |
| <b>Gen. VI. Menyanthes L.</b>                      |                                      |  |                  |          |  |
| 1. <i>M. trifoliata</i> L. . . .                   | <i>Bog-bean</i> . . .                | Bogs . . . .                                   | W.               | 4-12 in. | P. 5-7                                   |
| <b>Gen. VII. Limnanthemum Gmel.</b>                |                                      |  |                  |          |  |
| 1. <i>L. peltatum</i> Gmel. . .                    | <i>Fringed Water-</i><br><i>lily</i> | Rivers. L. . .                                 | Y.               | Fl.      | P. 7-8                                   |
| ( <i>Villarsia nymphae-</i><br><i>oides</i> Vent.) |                                      |  |                  |          |  |



ORD. L.—GENTIANACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Centaurium* (*continued*).

2. St. simp.—Ls. obl. lin. lower spath.—Fl. sess. corymb.—Cor. tube equalling calyx.
3. St. branched—Lower ls. almost orbic.—Fl. in compact, forked term. tufts, sub-sess.]
4. St. much branched—Ls. ov. obl.—Fl. term. and axill. all stalked, ebracteate—Cal. shorter than tube of opening cor.—Lat. fl. distant from floral ls.  
*b. Branches erect, forming a term. fastig. lengthened corymb.*  
*\* \* Sta. from base of cor. tube.*
5. St. short simp.—St. ls. ov. spath.—Fl. sess. in comp. term. tufts. ; cal. about equalling cylind. cor. tube.

Gen. IV. *Cicendia*.

1. St. much branched—Cal. 4-part.—Seg. lin. adpr.—Caps. elong.—Cor. pale pinkish white.

Gen. V. *Gentiana*.

1. St. erect, slend.—Ls. lin. obt.—Fl. term. axill.—Cor. (1-2 in.) narrow, bell-shaped.  
*\* Throat of cor. naked.*
2. St. branched—Ls. ellip. 3-5 nerved—Cor. ( $\frac{1}{4}$  in.) bright light blue—Lobes ov. obt.
3. St. tufted, 1 flowered—Ls. ov.—Cor. (1 in.) salver-shaped, sess. bright blue.
4. Cor. 4-5 cleft ( $\frac{1}{2}$ -1 in. long) cylind.—Cal. 5 cleft, seg. sub-equal.  
*\* \* Throat of cor. fringed.*  
*b. 4 merous flowers, cal. lobes unequal.*
5. Cor. obcon. (1-1 $\frac{1}{2}$  in. long) broadest at base of cor. lobes—Cal. seg. unequal—  
A larger plant with more conspic. fl. than 4.  
*× A hybrid of 4-5—Rare—Berks, Hants.*
6. Cor. 4 cleft—Cal. 4 cleft, two outer segm. large, ovate.

*b. Lower ls. ov. lanc.—Annual.*

Gen. VI. *Menyanthes*.

1. Ls. tern., lfts. obov. wavy—Fl. ( $\frac{2}{3}$  in.) white or pink, densely bearded.

Gen. VII. *Limnanthemum* = *Villarsia* = *Nymphoides*.

1. Ls. flo., heart-shaped—Ped. 1-flowered (1-1 $\frac{1}{2}$  in.)—Cor. fringed.  
*(Nymphoides peltatum Kuntze.)*

## ORD. LI.—POLEMONIACEÆ.

| Botanical Name.  | Common Name.          | Soil<br>or<br>Situation.                   | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------|--|---------|---------|--|
| <b>Gen. I. Polemonium</b> <i>L.</i><br>1. <i>P. cæruleum</i> <i>L.</i> . . | <i>Jacob's Ladder</i> | Copses. R. on<br>calc. soil in<br>N. of E. | B.      | 1-3 ft. | P. 6-7                                   |

## ORD. LII.—BORAGINACEÆ.

|   |   |                           |           |                 |          |        |
|---|---|---------------------------|-----------|-----------------|----------|--------|
| <b>Gen. I. Omphalodes</b><br><i>Moench.</i><br>*1. <i>O. verna</i> <i>Moench.</i> . . . .             |   | Plantat etc.              | R.        | B.              | 1-2 ft.  | B. 5-6 |
| <b>Gen. II. Cynoglossum</b> <i>L.</i><br>1. <i>C. officinale</i> <i>L.</i> . . . .                    | <i>Hound's Tongue</i><br><i>Common H.</i>     | Dunes, w. pl.,<br>etc.    | r.<br>Pu. |                 | 1-2 ft.  | B. 6-7 |
| <i>b. subglabrum</i> <i>Mérat</i><br>2. <i>C. montanum</i> <i>L.</i> . . . .                          | <i>Green-leaved H.</i>                        | Woods. R.                 | Pu.       |                 | 1-3 ft.  | B. 6-7 |
| <b>Gen. III. Lappula</b> <i>Gilib.</i><br>*1. <i>L. echinata</i> <i>Gilib.</i> . . . .                |   | Wa. pl.                   | R.        | B.              | 6-15 in. | A. 7-8 |
| <b>Gen. IV. Symphytum</b> <i>L.</i><br>1. <i>S. officinale</i> <i>L.</i> . . . .                      | <i>Comfrey</i><br><i>Common C.</i> . . . .    | Wet. pl.                  |           | W.<br>or<br>Pu. | 2-3 ft.  | P. 5-7 |
| <i>b. patens</i> ( <i>Sibth.</i> ) . . . .<br>2. <i>S. tuberosum</i> <i>L.</i> . . . .                | <i>Tuberous C.</i> . . . .                    | Sha. pl.                  | R.        | yW.             | 1-2 ft.  | P. 5-7 |
| *3. <i>S. peregrinum</i> <i>Ledeb.</i><br>Other species occur in plantations, and hybrids of 1 and 3. | <i>Prickly C.</i> . . . .                     | Wa. pl.                   |           | Pu.             | 2-4 ft.  | P. 6-8 |
| <b>Gen. V. Borago</b> <i>L.</i><br>*1. <i>B. officinalis</i> <i>L.</i> . . . .                        | <i>Borage</i> . . . .                         | Wa. pl., cult.<br>gr.     |           | B.              | 1-2 ft.  | B. 6-7 |
| <b>Gen. VI. Anchusa</b> <i>L.</i><br>1. <i>A. sempervirens</i> <i>L.</i> . . . .                      | <i>Alkanet</i><br><i>Evergreen A.</i> . . . . | Waysides,<br>etc. R.      |           | B.              | 1-3 ft.  | P. 5-7 |
| *2. <i>A. officinalis</i> <i>L.</i> . . . .   |   | Wa. pl.                   | R.        | Pu.             | 1-2 ft.  | P. 6-8 |
| <b>Gen. VII. Lycopsis</b> <i>L.</i><br>1. <i>L. arvensis</i> <i>L.</i> . . . .                        | <i>Field Alkanet</i> . . . .                  | Cult. gr. and<br>sea sand |           | B.              | 6-18 in. | A. 6-8 |

ORD. LI.—POLEMONIACEÆ.

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CHARACTERISTICS OF SPECIES AND VARIETIES.

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**Gen. I. Polemonium.**

1. Ls. pinn. ; lft. obt. lanc.—Pan. downy—Cor. ( $\frac{1}{2}$ –1 in.) blue or white.
- 

ORD. LII.—BORAGINACEÆ.

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**Gen. I. Omphalodes.**

- \*1. Rad. ls. cord. ov.—Stem ls. ov. lanc., rac. few flowered—Fl. large bright blue.

**Gen. II. Cynoglossum.**

1. Ls. hoary with appressed hairs—Nutlets with thickened border.

*b. Ls. dull gr. sparingly hairy.*

2. Ls. soft, green, shining above—Hairs from bulbous base—Nutlets without thickened border.

**Gen. III. Lappula = Echinosperrum.**

- \*1. Cor. pale blue, salver-shaped—Cal. of fr. erect—Marg. of seeds with double row of prickles—Ls. rough, bristly, sess.

**Gen. IV. Symphytum.**

1. St. winged above—Upper ls. lanc. very decurrent.

*b. Corolla purple.*

2. St. scarcely winged—Upper ls. ov.-lanc. slightly decurrent—Rootstock tuberous.

- \*3. Ls. very rough, hairs from a bulb. base—Fl. bluish-purp.—Plant used for forage.

**Gen. V. Borago.**

- \*1. Very bristly, with bulbous hairs—Lower ls. obov., atten. at base—Cor. bright blue, segm. ov. ac. flat, spreading.

**Gen. VI. Anchusa.**

1. Ls. ov. ; lower long stalked—Spikes in pairs, axill.—Cal. lobes oval.

- \*2. Ls. lanc.—Spikes unilat., crowded.

**Gen. VII. Lycopsis.**

1. Very hispid—Ls. lanc. wavy, bristles with tuberc. base.



ORD. LII.—BORAGINACEÆ (*continued*).

| Botanical Name.   | Common Name.                | Soil<br>or<br>Situation.     | Colour.                 | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------------|------------------------------|-------------------------|-----------|--|
| <b>Gen. VIII. Pulmonaria</b><br><i>L.</i>                     | <i>Lungwort</i>             |                              |                         |           |  |
| *1. <i>P. officinalis L.</i> . .                              | <i>Lungwort</i> . .         | Plantat. etc. .              | <i>℘</i> .<br>Pu.       | 12-18 in. | P. 5-6                                   |
| <i>b. immaculata Opiz.</i>                                    | . . . . .                   | Woods, R. . .                | . . . . .               | . . . . . | . . . . .                                |
| 2. <i>P. angustifolia L.</i> . .                              | <i>Narrow-leaved<br/>L.</i> | Woods, S. of<br>E., L.       | Pk.                     | 6-15 in.  | P. 5-6                                   |
| <b>Gen. IX. Asperugo</b> <i>L.</i>                            |                             |                              |                         |           |  |
| *1. <i>A. procumbens L.</i> . .                               | <i>Madwort</i> . .          | W. pl. R. . .                | B.                      | 6-18 in.  | A. 6-8                                   |
| <b>Gen. X. Mertensia</b> <i>Roth</i>                          |                             |                              |                         |           |  |
| 1. <i>M. maritima Don.</i> . .                                | <i>Sea Lungwort.</i>        | Sea shingle.<br>R.           | <i>℘</i> B.<br>&<br>Pk. | 1-2 ft.   | P. 6-8                                   |
| <b>Gen. XI. Myosotis</b> <i>L.</i>                            | <i>Scorpion Grass</i>       |                              |                         |           |  |
| *   |                             |                              |                         |           |  |
| 1. <i>M. palustris Hill</i> . .                               | <i>Forget-me-not</i> .      | Stream-sides,<br>etc.        | <i>℘</i> B.             | 1-2 ft.   | P. 6-8                                   |
| <i>b. strigulosa (Reichb.)</i>                                | . . . . .                   | . . . . .                    | . . . . .               | 6-12 in.  | . . . . .                                |
| <i>c. repens (Don)</i> . .                                    | . . . . .                   | Boggy pl. . .                | B.                      | . . . . . | . . . . .                                |
| 2. <i>M. cæspitosa Schultz</i>                                | . . . . .                   | Wet pl. . . .                | B.                      | 4-18 in.  | P. 6-8                                   |
| * *   |                             |                              |                         |           |  |
| 3. <i>M. pyrenaica Pourr.</i><br>( <i>M. alpestris Sch.</i> ) | <i>Mt. Sc. Gr.</i> . . .    | Mt. R. . . .                 | B.                      | 4-10 in.  | P. 7-8                                   |
| 4. <i>M. sylvatica Hoffm.</i>                                 | <i>Wood S.</i> . . . .      | Woods. L. . .                | B.                      | 1-2 ft.   | P. 6-8                                   |
| 5. <i>M. scorpioides L.</i> . .                               | <i>Field S.</i> . . . .     | Woods, cult.<br>gr. etc.     | B.                      | 6-18 in.  | A. 5-9                                   |
| ( <i>M. arvensis</i> )  | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| <i>b. umbrosa (Bab.)</i> . .                                  | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| * * *   |                             |                              |                         |           |  |
| 6. <i>M. collina Hoffm.</i> . .                               | <i>Early S.</i> . . . .     | Dry sandy pl.<br>walls, etc. | B.                      | 1-8 in.   | A. 4-5                                   |
| <i>b. Mittenii Baker</i> . .                                  | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| 7. <i>M. versicolor Sm.</i> . .                               | . . . . .                   | Dry sandy pl.                | Y.<br>&<br>B.           | 1-10 in.  | A. 4-7                                   |
| <i>b. Balbisiana (Jord.)</i>                                  | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| <i>c. pallida Bréb.</i> . .                                   | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| <b>Gen. XII. Lithosper-</b><br><b>mum</b> <i>L.</i>           |                             |                              |                         |           |  |
| 1. <i>L. officinale L.</i> . . .                              | <i>Gromwell</i> . . .       | Woods and<br>thick.          | <i>g</i> W.             | 1-3 ft.   | P. 7-9                                   |
| <i>b. pseudo-latifolium</i><br><i>Salm.</i>                   | . . . . .                   | . . . . .                    | . . . . .               | . . . . . | . . . . .                                |
| 2. <i>L. purpureo-cæruleum</i><br><i>L.</i>                   | <i>Blue G.</i> . . . .      | Thick. R. . .                | B.                      | 1-2 ft.   | P. 6-7                                   |
| 3. <i>L. arvense L.</i> . . . .                               | <i>Corn G.</i> . . . .      | Cult. gr. . . .              | W.                      | 1-2 ft.   | A. 5-7                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. VIII. Pulmonaria.**

\*1. Ls. ov. lanc. cord. spotted—Throat of cor. usually glab.

*b. Ls. not spotted.*

2. Ls. lanc.—Throat of cor. usually downy—Ls. usually spotted.

**Gen. IX. Asperugo.**

\*1. St. procumb. prickly—Ls. obt. hisp., lower stalked, upper sess.—Fl. sol. axill.

**Gen. X. Mertensia = Pneumaria** *Hill (the older name).*

1. St. proc.—Ls. glauc. fleshy ov. ac. rough—Fl. in cymes, pale blue and pink—  
A beautiful species—Leaves taste of oysters.

**Gen. XI. Myosotis.**

\* *Hairs of cal. straight, adpressed.*

1. Ls. blunt, shining—Cor. sky-blue ( $\frac{1}{3}$ – $\frac{1}{2}$  in.)—Cal. divided to one-third; its teeth short, triang.—Hairs of st. spreading.

*b. Pubescence of stem adpressed, flowers smaller.*

*c. Cal. divided to half, its teeth lanc.—Hairs of stem spread., stolons above ground.*

2. Cor. ( $\frac{1}{6}$  in.) scarcely longer than cal.—Cal. teeth lanc.—Hairs of st. adpressed—Ls. shining green.

\* \* *Hairs of cal. hooked, spreading—Pedi. longer than cal.*

3. Cor. ( $\frac{1}{3}$  in.) bright blue—Rad. ls. pointed, long stalked—Cal. deeply 5 cleft, atten. at base—Sty.  $\frac{1}{2}$  as long as cal.

4. Cor. ( $\frac{1}{3}$  in.) flat—Rad. ls. blunt, long stalked—Cal. deeply 5 cleft, obt. at base—Sty. nearly as long as cal.

5. Cor. ( $\frac{1}{6}$  in.) usually concave—Ls. obov. obt.—Cal. 5 cleft to middle—Sty. very short.

*b. Cor. ( $\frac{1}{4}$  in.), sometimes mistaken for No. 4.*

\* \* \* *Hairs of cal. hooked, spreading—Pedi. shorter than cal.*

6. Cor. bright blue; tube short—Cal. of fr. open, ventri.

*b. Cor. paler, lowest with bracts—Rare.*

7. Cor. yell. changing to dull blue, tube long—Cal. of fr. closed, obl.

*b. Fl. wholly yellow.*

*c. Fl. white, or cream coloured.*

**Gen. XII. Lithospermum.**

1. St. erect, rough—Cor. ( $\frac{1}{3}$  in.) with sm. scales in throat—Fr. smooth, hard, white—Ls. lanc.

*b. Ls. broadly ov. cord.*

2. Barren st. creeping—Cor. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.) bright blue-purp.

3. St. erect—Cor. ( $\frac{1}{3}$  in.) throat naked—Fr. grey, wrinkled.

ORD. LII.—BORAGINACEÆ (*continued*).

| Botanical Name.                        | Common Name.            | Soil<br>or<br>Situation. | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|--------------------------|---------|---------|--|
| <b>Gen. XIII. Echium</b> <i>L.</i>     | <i>Bugloss.</i>         |                          |         |         |  |
| 1. <i>E. vulgare</i> <i>L.</i> . . .   | <i>Viper's B.</i> . . . | Dry pl. . . .            | B.      | 1-3 ft. | B. 6-7                                   |
| *2. <i>E. italicum</i> <i>L.</i> . . . | <i>Italian B.</i> . . . | W. pl. R. . . .          | Pk.     | 1-2 ft. | B. 6-8                                   |
| 3. <i>E. plantagineum</i> <i>L.</i>    | <i>Jersey B.</i> . . .  | Dry pl. Jersey           | bVi.    | 1-3 ft. | B. 6-7                                   |

## ORD. LIII.—CONVOLVULACEÆ.

|  |                          |                 |           |           |        |
|--|--------------------------|-----------------|-----------|-----------|--------|
| <b>Gen. I. Calystegia</b> <i>Br.</i>     |                          |                 |           |           |        |
| 1. <i>C. sepium</i> <i>Br.</i> . . .     | <i>Large Bindweed</i>    | Hedges . . .    | W.        | 3-6 ft.   | P. 6-8 |
| 2. <i>C. Soldanella</i> <i>Br.</i> . .   | <i>Sea Convol.</i> . . . | Sea sh. . . .   | Pk.       | 6-12 in.  | P. 6-8 |
| <b>Gen. II. Convolvulus</b> <i>L.</i>    |                          |                 |           |           |        |
| 1. <i>C. arvensis</i> <i>L.</i> . . .    | <i>Corn Bindweed</i>     | Cult. gr. etc.  | Pk.       | 6-30 in.  | P. 6-8 |
| <b>Gen. III. Cuscuta</b> <i>L.</i>       | <i>Dodder</i>            |                 |           |           |        |
| *  |                          |                 |           |           |        |
| *1. <i>C. epilinum</i> <i>Weihe</i> .    | <i>Flax D.</i> . . .     | Flaxfields R.   | y.<br>Pk. | 1-3 ft.   | A. 7-8 |
| 2. <i>C. europæa</i> <i>L.</i> . . .     | <i>Great D.</i> . . .    | Hedges L. . .   | y.<br>Pk. | 2-7 ft.   | A. 7-9 |
| * *                                      |                          |                 |           |           |        |
| 3. <i>C. epithymum</i> <i>Murr.</i>      | <i>Heath D.</i> . . .    | Heaths . . .    | p.<br>Ro. | 6-24 in.  | A. 8-9 |
| <i>b. trifolii</i> ( <i>Bab.</i> ) . . . | <i>Clover D.</i> . . .   | Clover fie. . . | yW.       | 12-36 in. | A. 8-9 |

## ORD. LIV.—SOLANACEÆ.

|   |                          |                 |       |          |          |
|---|--------------------------|-----------------|-------|----------|----------|
| <b>Gen. I. Solanum</b> <i>L.</i>              |                          |                 |       |          |          |
| 1. <i>S. Dulcamara</i> <i>L.</i> . . .        | <i>Bitter sweet.</i> . . | Hedges . . .    | Pu.   | 2-6 ft.  | P. 6-8   |
| <i>b. marinum</i> <i>Bab.</i> . . .           | . . . . .                | Sea shingle . . | . . . | 1-2 ft.  | . . .    |
| 2. <i>S. nigrum</i> <i>L.</i> . . .           | <i>Black Night-shade</i> | Cult. gr. . . . | W.    | 6-24 in. | A. 6-11  |
| <i>b. luteo-virescens</i><br>( <i>Gmel.</i> ) | . . . . .                | . . . . .       | . . . | . . .    | . . .    |
| <i>c. miniatum</i> ( <i>Bernh.</i> )          | . . . . .                | . . . . .       | . . . | . . .    | 6-8      |
| <b>Gen. II. Lycium</b> <i>L.</i>              |                          |                 |       |          |          |
| *1. <i>L. chinense</i> <i>Mill.</i> . .       | <i>Tea tree</i> . . .    | Hedges, etc.    | Pu.   | 4-12 ft. | Shb. 6-8 |
| ( <i>L. barbarum</i> auct. ang.)              |                          |                 |       |          |          |



ORD. LII.—BORAGINACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XIII. Echium.**

1. St. simp.—Ls. lanc. ; st. ls. narrowed below—Spikes short lat.—Fl. red-purp. changing to blue—Rarely white—Sta. as long as cor.
- \*2. St. simp.—Very bristly—Ls. lanc.—Sta. twice as long as cor.—Fl. pink or white.
3. St. branched—Lower ls. obt., stalked ; upper cord. semi-amplex.—Spike long—Fl. very handsome—Cor. 1-1½ in. long.—Cornwall alien.

## ORD. LIII.—CONVOLVULACEÆ.

**Gen. I. Calystegia = Volvulus** *Med. (the older name).*

1. St. cli.—Ls. sagitt. ; lobes trunc.—Bract ov. cord. or triang.—Cor. (2 in.).
2. St. prost.—Ls. reni., fleshy—Bract obl. obt.—Cor. (1½-2 in.).

**Gen. II. Convolvulus.**

1. St. cli.—Ls. sagitt. ; lobes acu.—Bract sm. distant from fl.—Cor. (1 in.).

**Gen. III. Cuscuta.** *Climbing saprophytic parasites.*

\* *Cor. inflated—Scales adpr.—Sta. included.*

- \*1. Cal. nearly as long as glob. tube of cor.—Seg. acu.—On flax.
2. Cal. much shorter than cor. tube—Seg. obt.—On nettles, etc.

\* \* *Cor. cylind.—Scales spreading—Sta. exerted.*

3. Cal. reddish, shorter than cor. tube—Cor. with spread. lobes, scales prominent, nearly closing the tube—On heath, gorse, etc.
- b. Cal. whitish, nearly as long as cor. tube—Scales shorter, more distant—On clover.*

## ORD. LIV.—SOLANACEÆ.

**Gen. I. Solanum.**

1. St. shrubby, zigzag, cli.—Ls. cord. upper auricled—Berries ov. red.  
*b. St. prost. branched—Ls. fleshy, all cord.*
2. St. herbac. with tubercled angles—Ls. ov. wavy—Berries glob. black.  
*b. Berries greenish yellow—Rare.*  
*c. Berries red—Rare.*

**Gen. II. Lycium.**

- \*1. Straggling shrub, with pend. spinous branches—Berry obl. red.

ORD. LIV.—SOLANCEÆ (*continued*).

| Botanical Name.              | Common Name.              | Soil<br>or<br>Situation. | Colour.   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|------------------------------|---------------------------|--------------------------|-----------|-----------|--|
| <b>Gen. III. Atropa L.</b>   |                           |                          |           |           |  |
| 1. <i>A. Belladonna L.</i>   | <i>Deadly Night-shade</i> | Calc. woods,<br>etc. L.  | Pu.       | 2-4 ft.   | P. 6-8                                   |
| <b>Gen. IV. Datura L.</b>    |                           |                          |           |           |  |
| *1. <i>D. Stramonium L.</i>  | <i>Thorn Apple</i>        | Wa. pl. . . .            | W.        | 1-2 ft.   | A. 6-9                                   |
| <i>b. Tatula (L.)</i>        | . . . . .                 | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| <b>Gen. V. Hyoscyamus L.</b> |                           |                          |           |           |  |
| 1. <i>H. niger L.</i>        | <i>Henbane</i>            | Wa. pl. . . .            | Y.        | 1-3 ft.   | B. 6-9                                   |

## ORD. LV.—SCROPHULARIACEÆ.

|                                  |                     |                           |                |         |         |
|----------------------------------|---------------------|---------------------------|----------------|---------|---------|
| <b>Gen. I. Verbascum L.</b>      | <i>Mullein.</i>     |                           |                |         |         |
| 1. <i>V. Thapsus L.</i>          | <i>Aaron's rod.</i> | Dry sunny pl.             | Y.             | 1-4 ft. | B. 6-8  |
| 2. <i>V. virgatum Stokes.</i>    | <i>Lge. fl. M.</i>  | Wa. pl. R.                | Y.             | 1-3 ft. | B. 6-8  |
| *3. <i>V. Blattaria L.</i>       | <i>Moth M.</i>      | Wa. pl. . . .             | Y.<br>or<br>W. | 1-3 ft. | B. 6-10 |
| <i>b. album Druce</i>            |                     |                           |                |         |         |
| 4. <i>V. pulverulentum Vill.</i> | <i>Hoary M.</i>     | Waysides E.<br>of E.      | Y.             | 2-4 ft. | B. 7-8  |
| 5. <i>V. Lychnitis L.</i>        | <i>White M.</i>     | Wa. pl. R.                | Y.             | 2-3 ft. | B. 7-8  |
| <i>b. album Mill.</i>            |                     |                           |                |         |         |
| 6. <i>V. nigrum L.</i>           | <i>Black M.</i>     | Waysides on<br>grav. soil | Y.             | 1-3 ft. | B. 6-10 |

Hybrids of 1 × 4, 5 × 1, 6 × 4, 6 × 5, 6 × 1 have been found.

|                                 |                    |                     |           |           |           |
|---------------------------------|--------------------|---------------------|-----------|-----------|-----------|
| <b>Gen. II. Linaria Hill</b>    | <i>Toad-flax.</i>  |                     |           |           |           |
| *1. <i>L. vulgaris Mill.</i>    | <i>Yellow T.</i>   | Hedges, wa.<br>pl.  | Y.        | 1-3 ft.   | P. 7-10   |
| <i>b. latifolia Bab.</i>        | . . . . .          | . . . . .           | . . . . . | . . . . . | . . . . . |
| <i>c. pulchella Druce</i>       | . . . . .          | . . . . .           | . . . . . | 6-12 in.  | P. 7-9    |
| *2. <i>L. purpurea Mill.</i>    | <i>Purple T.</i>   | Walls . . . .       | Pu.       | 1-3 ft.   | P. 7-8    |
| 3. <i>L. repens Mill.</i>       | <i>Creeping T.</i> | Chalky pl. L.       | Li.       | 1-2 ft.   | P. 7-9    |
| × <i>vulgaris</i>               |                    |                     |           |           |           |
| 4. <i>L. Pelisseriana Mill.</i> | <i>Jersey T.</i>   | Heathy pl.<br>V. R. | Pu.       | 6-12 in.  | A. 6-7    |
| 5. <i>L. supina Desf.</i>       | <i>Prostr. T.</i>  | Wa. pl. . . .       | Y.        | 1-5 in.   | A. 7-9    |

ORD. LIV.—SOLANCEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. III. Atropa.**

1. St. herbac.—Ls. ent. ov.—Fl. sol. axill. lurid purple, drooping—Cor. (1 in. long)—Berry black.

**Gen. IV. Datura.**

- \*1. Ls. ov. sin. dent. glab.—Fl. white (1-2 in.) erect—Fr. erect spinose.  
*b. Fl. purple.*

**Gen. V. Hyoscyamus.**

1. Ls. obt. sess. sinu.—Viscidly hairy—Fl. sess.—Cor. (1-1½ in.) yellow, veined with purple.

## ORD. LV.—SCROPHULARIACEÆ.

**Gen. I. Verbascum.**

1. Ls. decurr. flannelly on both sides—Fl. ( $\frac{3}{4}$ -1 in.) in dense simp. spike—Hairs of fil. white.
2. Ls. decurr. gland. hairy—Ped. 1-5 flowered, shorter than cal.—Fl. ( $\frac{3}{4}$ -1 in.) racemose—Fil. hairs purple.
- \*3. Ls. decurr. glab.—Ped. sol. longer than cal.—Fl. rac.—Fil. hairs purple.  
*b. Fl. whitish.*
4. St. terete—Ls. not decurr., mealy above and below—Fl. ( $\frac{1}{2}$ - $\frac{3}{4}$  in.) in pyram. pan.—Fil. hairs white.
5. St. ang.—Ls. not decurr. glab. above—Fl. ( $\frac{1}{2}$  in.) yell., in narr. pan.—Fil. hairs white.  
*b. Flowers white; the common form.*
6. Ls. not decurr., glab. above, lower ones long stalked—Fl. ( $\frac{1}{2}$ - $\frac{3}{4}$  in.) clustered in a spic. pan.—Fil. hairs purp.

**Gen. II. Linaria.**\* *Stem erect.*

1. Ls. lin. crowded—Fl. in dense, imbric. rac.—Cor. yell.  
*b. Ls. narr. lanc.—Fl. larger, fl. ls. very glauc.—Spur directed, perpendic. downwards.*  
*c. Pl. lax. diff.—Ls. lin. narr.—Fl. with lge. orange spots on pal.—Spur bent.*
- \*2. Ls. long lin.—Sep. lin. shorter than caps.—Fl. in long rac.—Cor. purp.
3. Ls. lin. whorled—Fl. in long lin. pan.—Cor. white or pale bl. with darker veins—Sep. lanc.  
*× A hybrid of 1 × 3 = L. sepium—Fl. larger, yellower—Ls. broader.*
4. Ls. lin. lower whorled—Fl. few in short rac.—Cor. purp., with darker veins—Jersey only.
5. St. diffuse or ascending—Ls. lin. blunt—Sep. lin. spath.—Fl. capitate—Rac. yellow—Naturalized in Cornwall and Devon.



ORD. LV.—SCROPHULARIACEÆ (*continued*).

| Botanical Name.  | Common Name.                              | Soil<br>or<br>Situation.        | Colour.    | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|---|---------------------------------|------------|-----------|--|
| <b>Gen. II. <i>Linaria</i> Hill</b><br>( <i>continued</i> ). |   |                                 |            |           |  |
| 6. <i>L. minor</i> Desf. . . . *                             | <i>Small T.</i> . . .                     | Cult. gr., rail-<br>way ballast | dull<br>Y. | 4-15 in.  | A. 5-10                                  |
| 7. <i>L. spuria</i> Mill. . . .                              | <i>Fluellen</i> . . .                     | Corn fie. . . .                 | Y.         | 4-18 in.  | A. 7-10                                  |
| 8. <i>L. Elatine</i> Mill. . . .                             | <i>Sh. leaved F.</i> . . .                | Corn fie. . . .                 | Y.         | 6-24 in.  | A. 7-10                                  |
| *9. <i>L. Cymbalaria</i> Mill.                               | <i>Ivy-leaved T.</i> . . .                | Walls . . . .                   | p B.       | 6-24 in.  | A. 5-9                                   |
| <b>Gen. III. <i>Antirrhinum</i> L.</b>                       |   |                                 |            |           |  |
| *1. <i>A. majus</i> L. . . .                                 | <i>Snapdragon</i> . . .                   | Walls . . . .                   | puR        | 1-2 ft.   | P. 7-9                                   |
| 2. <i>A. Orontium</i> L. . . .                               | <i>Weasel's snout.</i> . . .              | Cult. gr. . . .                 | ro.<br>Pu. | 6-18 in.  | B. 7-10                                  |
| <b>Gen. IV. <i>Scrophularia</i> L.</b>                       |   |                                 |            |           |  |
| *1. <i>S. vernalis</i> L. . . .                              | <i>Figwort.</i><br><i>Yellow F.</i> . . . | Plantat. and<br>wa. pl.         | Y.         | 1-3 ft.   | P. 4-6                                   |
| 2. <i>S. aquatica</i> L. . . .                               | <i>Water Betony.</i> . . .                | Wet pl. . . .                   | gBr.       | 2-4 ft.   | P. 7-9                                   |
| <i>b. pubescens</i> . . . .                                  | . . . . .                                 | . . . . .                       | . . . . .  | . . . . . | . . . . .                                |
| 3. <i>S. alata</i> Gilib. . . .                              | . . . . .                                 | Wet shady pl.<br>R.             | gBr.       | 2-5 ft.   | P. 7-9                                   |
| 4. <i>S. nodosa</i> L. . . .                                 | <i>Figwort</i> . . . .                    | Woods . . . .                   | gBr.       | 1-2 ft.   | P. 7-9                                   |
| <i>b. Bobartii</i> Pryor . . . .                             | . . . . .                                 | . . . . .                       | G.         | . . . . . | . . . . .                                |
| <i>c. bracteata</i> Druce . . . .                            | . . . . .                                 | . . . . .                       | . . . . .  | . . . . . | . . . . .                                |
| 5. <i>S. Scorodonia</i> L. . . .                             | . . . . .                                 | Waysides,<br>etc., S. E.        | Pu.        | 2-4 ft.   | P. 6-8                                   |
| <b>Gen. V. <i>Mimulus</i> L.</b>                             |   |                                 |            |           |  |
| *1. <i>M. Langsdorfii</i> Donn.<br>( <i>M. luteus</i> )      | <i>Monkey Fl.</i> . . .                   | Wat. pl. . . .                  | Y.         | 1-2 ft.   | P. 7-8                                   |
| *2. <i>M. moschatus</i> Dougl.                               | <i>Musk</i> . . . .                       | Wat. pl. . . .                  | Y.         | 6-18 in.  | P. 7-8                                   |
| <b>Gen. VI. <i>Limosella</i> L.</b>                          |   |                                 |            |           |  |
| 1. <i>L. aquatica</i> L. . . .                               | <i>Mud-wort</i> . . .                     | Muddy pl. R.                    | p.<br>Pk.  | 1-4 in.   | A. 7-9                                   |
| <i>b. tenuifolia</i> Lej. . . .                              | . . . . .                                 | . . . . .                       | . . . . .  | 1-2 in.   | . . . .                                  |
| <b>Gen. VII. <i>Sibthorpia</i> L.</b>                        |   |                                 |            |           |  |
| 1. <i>S. europæa</i> L. . . .                                | <i>Cornish money-<br/>wort</i>            | Shady pl. S.<br>of E.           | Pk.        | 6-12 in.  | P. 7-8                                   |
| <b>Gen. VIII. <i>Digitalis</i> L.</b>                        |   |                                 |            |           |  |
| 1. <i>D. purpurea</i> L. . . .                               | <i>Fox glove</i> . . .                    | Woods, etc. . .                 | Pu.        | 2-4 ft.   | P. 6-8                                   |
| <b>Gen. IX. <i>Erinus</i> L.</b>                             |   |                                 |            |           |  |
| *1. <i>E. alpinus</i> L. . . .                               | . . . . .                                 | Walls and wa.<br>pl. R.         | vi.<br>R.  | 2-8 in.   | P. 7-8                                   |
| <b>Gen. X. <i>Veronica</i> L.</b>                            |   |                                 |            |           |  |
| A.   | <i>Speedwell.</i>                         |                                 |            |           |  |
| 1. <i>V. spicata</i> L. . . .                                | <i>Spiked S.</i> . . .                    | Dry calc. pl.<br>V. R. E. of E. | B.         | 4-12 in.  | P. 7-8                                   |
| <i>b. hybrida</i> (L.) Huds.                                 | . . . . .                                 | Calc. cliff, W.<br>of E.        | . . . .    | 6-15 in.  | . . . .                                  |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. II. Linaria** *Hill (continued)*.

6. St. erect, rarely diff.—Ls. lin. lanc. obt., gland. pubesc.—Fl. sol. axill.  
 \* \* *Stems trailing.*  
 7. Ls. roundish-ov., downy—Cor. yell. with choc. cold. upper lip—Spur curved—  
 Ped. hairy.  
 8. Ls. ovate-hastate, downy—Cor. as 7, but smaller—Spur straight—Ped. glab.  
 \*9. Ls. five-lobed, glab.—Fl. long stalked, sol. pale blue.

**Gen. III. Antirrhinum.**

- \*1. St. stout, woody—Ls. lanc.—Rac. dense—Sep. ov. shorter than cor. ( $1\frac{1}{2}$  in.).  
 2. St. erect. herb.—Ls. lin. lanc.—Rac. lax.—Sep. lin. longer than cor. ( $\frac{1}{2}$ – $\frac{2}{3}$  in.).

**Gen. IV. Scrophularia.**

- \*1. St. winged—Ls. downy, broad, cord.—Cor. yell.—Cal. of 5 deep acu. segm.  
 2. St. winged—Ls. glab. obt.  
*b. Ls. pubescent.*  
 3. St. broadly winged—Ls. ov. lanc. ac. glab.—Bracts lge. leaf-like—Pl. clear  
 bright green—Caps. sub-glob.—Cymes more diffuse—Rare.  
 4. St. 4-angled—Ls. glab. ac.—Staminode wedge-shaped.  
*b. Fl. wholly green.*  
*c. Inflorescence with leaf-like bracts.*  
 5. St. bluntly 4-angled—Ls. downy, cord. triang.—Cor. purplish—Bract leaf-like.

**Gen. V. Mimulus.**

- \*1. Pl. glab. odourless—Ls. broad ov. upper ls. clasping—Fl. lge. (2 in. long) yell.  
 or spotted with choc.—Naturalized = *M. guttatus* DC.  
 \*2. Pl. gland. hairy, scented—Ls. ellip.—Fl. ( $\frac{1}{2}$ –1 in. long) narr. yell.

**Gen. VI. Limosella.**

1. Rhizome cr., rooting—Ls. lanc., spath. long-stalked.  
*b. Ls. sm. lin.—Margin of Kenfig Pool, etc., Glam.*

**Gen. VII. Sibthorpia.**

1. St. fili., hairy, prost.—Ls. reni., 5–7 lobed—Fl. minute.

**Gen. VIII. Digitalis.**

1. Ls. ovate, lanc. downy, veiny—Fl. drooping ( $1\frac{1}{2}$ – $2\frac{1}{2}$  in.).

**Gen. IX. Erinus.**

- \*1. Sub-cæspit.—Ls. spath. deeply serr.—Ped. term. sub-corymb.

**Gen. X. Veronica.**

- A. Root perennial—Rac. term.—\* Tube of cor. long.*  
 1. Ls. ov. lanc.; lower ls. with cun. base sub-sess. serr. above middle—Spike  
 dense—Eastern Counties.  
*b. Lower ls. with cord., base petioled, serr. throughout—W. of E.*



ORD. LV.—SCROPHULARIACEÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil<br>or<br>Situation.                   | Colour.         | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|--|-----------------|----------|--|
| <b>Gen. X. Veronica L.</b><br>( <i>continued</i> ).<br>* * |                          |  |                 |          |  |
| 2. <i>V. officinalis</i> L. . .                            | <i>Common S.</i> . .     | Heathy pl. .                               | ♂B.             | 2-10 in. | P. 5-7                                   |
| <i>b. hirsuta</i> (Hopk.) .                                | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| <i>c. glabrata</i> . . . .                                 | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| 3. <i>V. Chamædrys</i> L. .                                | <i>Germander S.</i> .    | Hedge bks.,<br>etc.                        | B.              | 6-20 in. | P. 5-6                                   |
| 4. <i>V. montana</i> L. . .                                | <i>Mount S.</i> . . .    | Woods . .                                  | B.              | 6-20 in. | P. 5-7                                   |
| 5. <i>V. scutellata</i> L. . .                             | <i>Marsh S.</i> . . .    | Marshes . .                                | W.<br>or<br>Pk. | 6-12 in. | P. 7-8                                   |
| <i>b. villosa</i> Schum. . .                               | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| 6. <i>V. Beccabunga</i> L. .                               | <i>Brook lime</i> . .    | Wat. pl. . .                               | B.              | 1-2 ft.  | P. 5-9                                   |
| <i>b. limosa</i> (Lej.) . .                                | . . . . .                | . . . . .                                  | Pk.             | . .      | . .                                      |
| 7. <i>V. Anagallis</i> L. . .                              | <i>Water S.</i> . . .    | Wat. pl. . .                               | B.              | 1-2 ft.  | P. 7-8                                   |
| <i>b. anagalliformis</i> Bor.                              | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| <i>c. montioides</i> Boiss..                               | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| * * *  |                          |  |                 |          |  |
| 8. <i>V. alpina</i> L. . . .                               | <i>Alpine S.</i> . . .   | Scot. mt. R. .                             | dk.<br>B.       | 3-10 in. | P. 7-8                                   |
| 9. <i>V. serpyllifolia</i> L. .                            | <i>Thyme l. S.</i> . .   | Waysides,<br>etc.                          | Li.             | 3-10 in. | P. 7-8                                   |
| <i>b. humifusa</i> (Dicks.)                                | . . . . .                | Mts. . . . .                               | . .             | 3-6 in.  | . .                                      |
| 10. <i>V. fruticans</i> Jacq. .                            | <i>Blue rock S.</i> .    | Scot. mts.<br>V. R.                        | B.              | 2-4 in.  | P. 7-8                                   |
| ( <i>V. saxatilis</i> )<br>* * * *                         |                          |  |                 |          |  |
| 11. <i>V. verna</i> L. . . .                               | <i>Spring S.</i> . . .   | Bare heaths,<br>V. R. E. of E.             | B.              | 1-4 in.  | A. 4-5                                   |
| 12. <i>V. arvensis</i> L. . .                              | <i>Wall S.</i> . . . .   | Dry pl. . .                                | B.              | 1-12 in. | A. 4-7                                   |
| <i>b. nana</i> Poir. . . .                                 | . . . . .                | . . . . .                                  | . .             | 1-3 in.  | . .                                      |
| 13. <i>V. triphyllos</i> L. . .                            | <i>Fingered S.</i> . .   | Dry bare hea.<br>E. of E. and<br>w. pl. R. | B.              | 2-5 in.  | A. 4-5                                   |
| B.   |                          |  |                 |          |  |
| *14. <i>V. Tournefortii</i> Gmel.                          | <i>Lge. field S.</i> . . | Cult. gr. . .                              | B.              | 6-12 in. | A. 4-10                                  |
| ( <i>V. Buxbaumii</i> )                                    |                          |  |                 |          |  |
| 15. <i>V. agrestis</i> L. . . .                            | <i>Field S.</i> . . . .  | Cult. gr., etc.                            | B.              | 4-8 in.  | A. 4-9                                   |
| 16. <i>V. didyma</i> Ten. . .                              | <i>Grey F. S.</i> . . .  | Cult. gr. . .                              | B.              | 4-8 in.  | A. 4-9                                   |
| <i>b. grandiflora</i> (Bab.)                               | . . . . .                | . . . . .                                  | . .             | . .      | . .                                      |
| 17. <i>V. hederifolia</i> L. .                             | <i>Ivy-leaved S.</i> .   | Dry soils . .                              | ♂L.             | 6-18 in. | A. 3-8                                   |

**Gen. XI. Euphrasia L.**

1. *E. officinalis* L. . . . *Eyebright* . . . Heathy gr. . Var. 1-12 in. A. 5-9

16 micro-species of this critical genus are described as British. The student is referred to Mr. Townsend's or Dr. R. von Wettstein's monograph of the genus. The larger flowered forms include *E. Rostkoviana*, which is widely distributed, and *E. Kernerii*, which is found chiefly on chalky or calc. soils. The commonest English plant is probably *E. nemorosa*; a plant from Exmoor with more yellow in the cor. is *E. minima*, and a stout glandular plant from the north Scottish coast is *E. latifolia*. One of the most distinct forms is a very narrow and more deeply cut leaved plant from the west of Ireland, which is *E. salisburgensis*.



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. X. Veronica L.** (*continued*).\* \* *Rt. peren.*—*Tube of cor. short*—*Rac. axill.*

2. Pl. hairy—Ls. ellip. narrowed at base—Rac. axill. spic.—Caps. ob-cord., deeply notched—Fl. sess.—Stem hairy all round.

*b. Very small, very hairy*—Ls. narrow—Caps. ent. at tip—Ayrshire ]

*c. Ls. sub-glabr.*—Usually alpine.

3. St. hairy on alt. sides—Ls. ov. sess. deeply serr.—Rac. opp.—Caps. ob-cord.—Cor. varies in colour.
4. St. hairy, diff.—Ls. ov-cord., stalked serr.—Rac. alt., lax—Caps. orb., flat, notched with crenulate margin—Fl. paler in colour.
5. St. glab.—Ls. lin. lanc.—Rac. alt.—Caps. of two orbic. lobes—Cor. ( $\frac{1}{4}$  in.).

*b. Plant hairy.*

6. St. proc. at base, succ.—Ls. ellip. obt. petioled—Rac. opp.—Caps. rounded.

*b. Flowers pink.*

7. St. erect, succ. glab.—Ls. lanc. serr. acute, sess.—Rac. opp.—Caps. ellip.

*b. Upper part of rac. clothed with gland. hairs.*

*c. Annual*—4-9 inches.

\* \* \* *Rt. peren.*—*Tube of cor. short*—*Rac. terminal.*

8. St. erect—Ls. ellip. ov.—Spike few flowered—Caps. obov.—Sty. short—Upper part of stem, calyx, etc., dingy blue.

9. St. asc.—Ls. broadly ov.—Spike many flowered—Caps. ob-cord.—Sty. as long as flat caps.

*b. Decumb., rooting at nodes*—Ls. ent.—Caps. gland. pubesc.—Alpine.

10. St. woody, decumb.—Ls. ellip.—Spike few flowered—Cor. ( $\frac{1}{2}$  in.) bright blue—Caps. ov. sty long—Very rare—A beautiful spec.

\* \* \* \* *Root annual*—*Fl. spicate.*

11. Erect, gland. pubesc.—Ls. lobed, or pinnfid., bract lanc. ent.—Pedi. shorter than sep.—Seeds flat.

12. Ls. cord. ov. coarsely toothed.

*b. Sm. pl., upper ls., bracts, and sep. not exceeding caps.*

13. Ls. digit.—Pedi. longer than sep.—Seeds concave.

*B. Root annual*—*Fl. axill. sol.*

- \*14. Ls. cord. serr. shining—Sep. lanc. ac.—Caps. of 2 divar. lobes: twice as broad as long and keeled—Cor. ( $\frac{1}{2}$  in.) bright blue.

15. Ls. cord. serr.—Sep. obl. obt.—Lower pet. white—Cap. of two turgid lobes.

16. Ls. cord. serr.—Sep. ov. acu.—Cor. all blue ( $\frac{1}{8}$ – $\frac{1}{3}$  in.)—Cap. of two turgid lobes.

*b. Fl. larger* ( $\frac{1}{3}$ – $\frac{1}{2}$  in.).

17. Ls. cord., 5-7 lobed—Fl. pale lilac—Sep. cord. at base.

**Gen. XI. Euphrasia.** *A semi-parasite.*

1. Ls. ov. deeply serr., sess.—Fl. in leafy spikes—Bracts broad at base.

ORD. LV.—SCROPHULARIACEÆ (*continued*).

| Botanical Name.                         | Common Name.            | Soil<br>or<br>Situation.        | Colour.          | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|---------------------------------|------------------|-----------|--|
| <b>Gen. XII. <i>Bartsia</i> L.</b>      |                         |                                 |                  |           |  |
| 1. <i>B. alpina</i> L. . . .            | <i>Alpine B.</i> . . .  | Alp. past. R.                   | <i>b.</i><br>Pu. | 4-8 in.   | P. 6-8                                   |
| 2. <i>B. viscosa</i> L. . . .           | <i>Yellow B.</i> . . .  | Grassy gr. in<br>S. W. of Brit. | Y.               | 4-18 in.  | A. 6-10                                  |
| 3. <i>B. Odontites</i> Huds.            | <i>Red B.</i> . . .     | Roadsides,<br>fields            | R.               | 6-18 in.  | A. 6-9                                   |
| <i>b. litoralis</i> (Reichb.)           | . . . .                 | Northern co.                    | . .              | 4-18 in.  | . .                                      |
| <i>c. serotina</i> (Jord.)              | . . . .                 | Waysides                        | . .              | 6-18 in.  | . .                                      |
| <i>d. divergens</i> (Jord.)             | . . . .                 | . . . .                         | . .              | . .       | . .                                      |
| <b>Gen. XIII. <i>Pedicularis</i> L.</b> |                         |                                 |                  |           |  |
| <i>Lousewort.</i>                       |                         |                                 |                  |           |  |
| 1. <i>P. palustris</i> L. . . .         | <i>Marsh L.</i> . . .   | Marshes . .                     | Cr.              | 6-18 in.  | A. 5-9                                   |
| 2. <i>P. sylvatica</i> L. . . .         | <i>Heath L.</i> . . .   | Moi. heathy<br>pl.              | Ro.              | 3-10 in.  | P. 4-7                                   |
| <b>Gen. XIV. <i>Rhinanthus</i> L.</b>   |                         |                                 |                  |           |  |
| <i>Corn rattle.</i>                     |                         |                                 |                  |           |  |
| 1. <i>R. major</i> Ehrh. . . .          | <i>Great C.</i> . . .   | Cult. gr. etc.<br>R.            | Y.               | 6-18 in.  | A. 6-8                                   |
| <i>a. platypterus</i> (Fr.)             | . . . .                 | . . . .                         | . .              | . .       | . .                                      |
| <i>b. stenopterus</i> (Fr.)             | . . . .                 | . . . .                         | . .              | . .       | . .                                      |
| <i>c. apterus</i> (Fr.) . . .           | . . . .                 | . . . .                         | . .              | . .       | . .                                      |
| 2. <i>R. Crista-galli</i> L. . .        | <i>Com. C.</i> . . .    | Past. . . .                     | Y.               | 2-18 in.  | A. 5-8                                   |
| <i>b. rusticulus</i> Druce . .          | . . . .                 | Co. past. R..                   | . .              | 2-6 in.   | 6-7                                      |
| <i>c. stenophyllus</i> Druce            | . . . .                 | Past. . . .                     | . .              | 9-18 in.  | 7-8                                      |
| <i>d. monticola</i> Druce . .           | . . . .                 | North Brit. &<br>mt. past.      | . .              | 2-6 in.   | 7-8                                      |
| <i>e. borealis</i> Druce . . .          | . . . .                 | Scot. mt. . .                   | <i>br.</i><br>Y. | 2-6 in.   | 7-8                                      |
| <i>f. Drummond-Hayi</i><br>Druce        | . . . .                 | Scot. mt. . .                   | <i>br.</i><br>Y. | 2-4 in.   | 7-8                                      |
| <b>Gen. XV. <i>Melampyrum</i> L.</b>    |                         |                                 |                  |           |  |
| <i>Cow-wheat.</i>                       |                         |                                 |                  |           |  |
| 1. <i>M. cristatum</i> L. . . .         | <i>Crested C.</i> . . . | Woods, E. of<br>E. R.           | Y.               | 6-24 in.  | A. 7                                     |
| 2. <i>M. arvense</i> L. . . .           | <i>Field C.</i> . . .   | Cult. gr. R. .                  | Ro.              | 9-24 in.  | A. 6-9                                   |
| 3. <i>M. pratense</i> L. . . .          | <i>Common C.</i> . . .  | Heaths,<br>woods, etc.          | <i>p</i> Y.      | 6-18 in.  | A. 5-9                                   |
| <i>b. latifolium</i> S. & M.            | . . . .                 | Woods, L. .                     | . .              | 12-18 in. | . .                                      |
| <i>c. ericetorum</i> D. Oliv.           | . . . .                 | Moi. heaths<br>and bogs         | . .              | 6-10 in.  | . .                                      |
| <i>d. montanum</i><br>(Johnst.)         | . . . .                 | Moors . . .                     | . .              | 4-10 in.  | . .                                      |
| <i>e. hians</i> Druce . . .             | . . . .                 | Roc. pl. etc..                  | <i>d</i> Y.      | 6-18 in.  | . .                                      |
| 4. <i>M. sylvaticum</i> L. . .          | <i>Alpine C.</i> . . .  | Alpine woods,<br>R.             | Y.               | 6-24 in.  | A. 7-8                                   |
| <i>b. pallidiflorum</i><br>F. B. W.     | . . . .                 | . . . .                         | . .              | . .       | . .                                      |

ORD. LV.—SCROPHULARIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XII. Bartsia.** *Semi-parasites.*

1. Ls. opp. cord., bluntly serr.—Fl. in short leafy spike—Seeds numerous.
2. Viscid—Ls. lanc. serr.—Fl. axill., upper crowded—Seeds numerous.
3. Ls. lanc., remotely serr., rounded at base—Fl. in unilat. rac.—Seeds few—  
Bract longer than fl.
  - b. Erect, sub-simp. stem—Ls. broader, more obt.—Cap. exserted.*
  - c. Ls. narrowed below—Bract shorter than fl.*
  - d. St. much branched—Branches widely spreading.*

**Gen. XIII. Pedicularis.** *Semi-parasites.*

1. St. sol. erect, branched above—Cal. hairy, with 2 jagged lobes.
2. St. proc., branched, spreading—Cal. glab. 4 or 5 toothed.

**Gen. XIV. Rhinanthus.** *Semi-parasites.*

1. Ls. lin. lanc. serr.—Fl. in crowded spikes—Bract yellowish—Lobes of upper cor. lip obl.
  - a. Seed-wing broad.*
  - b. Seed-wing narrow.*
  - c. Seed-wing absent, seed ribbed.*
2. Ls. lanc. serr.—Fl. in lax spikes—Bracts green—Lobe of upper cor. lip short roundish.
  - b. Stem shorter, simp. few flowered—Fruiting cal. blk viol.—Orkneys.*
  - c. St. with many internodes—Ls. narrow—St. ls. with 2 or 3 ls. in axill. and intercalary branches.*
  - d. Like c. but much smaller, with st. ls. very narrow, recurved—Internodes short and numerous—Mts. and Scot. past. R.*
  - e. Stem simp., without black striæ villose—Cal. pubesc. all over—Cor. dk. treacly-yell.—Lower ls. ov. obt.—St. ls. lanc.—Lofty Scotch mts.*
  - f. St. simp., without black striæ, hirsute—Ls. narrow lin.—Cal. pubesc. all over—Cor. as in e.—Lofty Scot. mts.*

**Gen. XV. Melampyrum.**

1. Fl. in dense, imbric. 4-sided spikes—Bract, cord., pect. bright pink or ro.—Fl. var.
2. Fl. in lax, con. spikes—Bract, broadly lanc., pinnfid, with long slender-teeth, pink or purplish-red—Fl. variegated.
3. Fl. axill., secund—Cor. 4 times as long as cal.—Upper bracts cut., or toothed at base, green = *M. vulgatum* Pers.
  - b. Ls. ov. lanc. base cord. ent.—Fl. pale yell.*
  - c. Hispid—Ls. lanc. or lin. lanc. bract toothed—Cor. pale yell., tube white—Irish bogs.*
  - d. Bracts entire—Ls. lin. lanc. hispid.*
  - e. Fl. wholly deep yell.*
4. Fl. axill. secund—Cor. smaller than 3, twice as long as cal.—Bracts all ent.
  - b. Fl. pale yellow, or whitish-yell.*



## ORD. LVI.—OROBANCHACEÆ.

| Botanical Name.  | Common Name.           | Soil<br>or<br>Situation.           | Colour.           | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|------------------------------------|-------------------|-----------|--|
| <b>Gen. I. Orobanche L.</b><br>*                                     | <i>Broom-rape.</i>     |                                    |                   |           |  |
| 1. <i>O. Rapum-Genistæ Thuill.</i>                                   | <i>Great B.</i> . . .  | Parasite on<br>broom, furze.<br>L. | Br.               | 1-3 ft.   | P. 5-7                                   |
| 2. <i>O. reticulata Walr.</i><br>var. <i>procera</i> (Koch)          | <i>Great B.</i> . . .  | Thistle, V. R.                     | p.<br>Br.<br>Y.   | 12-34 in. | P. 7-8                                   |
| 3. <i>O. caryophyllacea Sm.</i>                                      | <i>Clove B.</i> . . .  | Galium verum                       | rBr.              | 6-12 in.  | P. 5-7                                   |
| 4. <i>O. rubra Sm.</i> . . .   | <i>Red B.</i> . . .    | Thyme . . .                        | R.                | 4-9 in.   | P. 6-8                                   |
| 5. <i>O. major L.</i> . . .<br>( <i>elatio</i> Sutt.)                | <i>Tall B.</i> . . .   | Composites .                       | dull<br>Y.        | 9-24 in.  | P. 6-8                                   |
| 6. <i>O. ritro G. &amp; G.</i> . .<br>var. <i>hypochæroides</i> (B.) | <i>Yellow B.</i> . . . | On Cat's tail                      | Y.                | 4-9 in.   | P. 6-7                                   |
| 7. <i>O. hederæ Duby.</i> . .  | <i>Ivy B.</i> . . .    | On ivy . . .                       | viBr              | 6-24 in.  | P. 7-8                                   |
| 8. <i>O. picridis Sch.</i> . . .                                     | <i>Picris B.</i> . . . | Compos. . .                        | pale<br>Y.<br>Br. | 6-18 in.  | A. 6-8                                   |
| 9. <i>O. amethystea Th.</i> . .                                      | . . . . .              | Umbellif. nr.<br>coast. R.         | br.<br>V.         | 6-24 in.  | A. 6-7                                   |
| 10. <i>O. minor Sm.</i> . . .  | <i>Small B.</i> . . .  | Clover, etc. .                     | p.<br>Br.         | 6-24 in.  | A. 6-8                                   |
| <i>b. flavescens Reut.</i> . .                                       | . . . . .              | Umbelliferæ .                      | Y.                | 6-12 in.  | 6-8                                      |
| <i>c. conciliata Druce</i> . .                                       | . . . . .              | . . . . .                          | . .               | . .       | . .                                      |
| * 11. <i>O. purpurea Jacq.</i> . .                                   | . . . . .              | Milfoil, etc. .                    | B.                | 4-12 in.  | P. 6-7                                   |
| <i>b. Spitzelii Druce</i> . . .                                      | . . . . .              | . . . . .                          | dk.<br>B.         | . .       | . .                                      |
| * 12. <i>O. ramosa L.</i> . . .                                      | . . . . .              | Hemp. . . .                        | B.                | 4-8 in.   | A.                                       |
| <b>Gen. II. Lathræa L.</b>   |                        |                                    |                   |           |  |
| 1. <i>L. Squamaria L.</i> . .  | <i>Toothwort</i> . . . | Dp. shady pl.                      | W.                | 4-10 in.  | P. 4-5                                   |

## ORD. LVII.—LENTIBULARIACEÆ.

|  |                                    |                                  |           |                |               |
|--|------------------------------------|----------------------------------|-----------|----------------|---------------|
| <b>Gen. I. Utricularia L.</b>                              | <i>Bladderwort</i>                 |                                  |           |                |               |
| 1. <i>U. vulgaris L.</i> . . .                             | <i>Lge. B.</i> . . . .             | Ditches and<br>pools             | Y.        | 6-18 in.       | P. 6-7        |
| 2. <i>U. major Sch.</i> . . .<br>( <i>neglecta Lehm.</i> ) | . . . . .                          | Pools in<br>heathy pl.           | Y.        | 6-15 in.       | P. 6-8        |
| 3. <i>U. intermedia Hayne</i>                              | . . . . .                          | Bogs L. . . .                    | Y.        | 2-4 in.        | P. 6-9        |
| 4. <i>U. minor L.</i> . . . .<br><i>b. Bremii</i> (Heer.)  | <i>Sm. B.</i> . . . .<br>. . . . . | Pools L. . . .<br>? Scotl. . . . | Y.<br>. . | 2-6 in.<br>. . | P. 6-8<br>. . |

## ORD. LVI.—OROBANCHACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Orobanche.** *Fleshy saprophytic parasites.*\* *Calyx with 2 deep divisions, 1 bract.*

1. Cor. (1 in. long) sub-camp.—Upper lip ent. ; lower 3-lobed, mid lobe much the longest—Yellow and purplish or yellow br.—Filam. glab. below.
2. Cor. ( $\frac{5}{8}$ – $\frac{7}{8}$  in.) tubular, white or yell. wh.—Sep. simp. hairy at base only—Filam. gland. hairy on upper part only—Yorks—Very rare.
3. Cor. (1–1 $\frac{1}{4}$  in.) reddish-br. sub-camp.—Sep. bifid.—Upper cor. lip 2-lobed ; lower of 3 nearly equal lobes—Scented of cloves—On yell. bedstraw in S. Kent.
4. Cor. ( $\frac{1}{4}$ – $\frac{3}{4}$  in.) dull red—Sep. 1-veined lanc. subu., longer than cor.—Lobes of lower lip nearly equal—Fl. scented—Chiefly nr. western coast.
5. Cor. ( $\frac{3}{4}$  in.) tubular—At first yell.-rose, after pale yell.—Sep. bifid gland. hairy all over—Fil. gland. hairy all over.
6. Cor. densely gland. hairy ( $\frac{5}{8}$ – $\frac{3}{4}$  in.), pure citron yell.—Whole pl. densely gland. pubesc. and yellow—On *Hypochaeris radicata*—Jersey—Very rare.
7. Cor. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.) upper lip ent. ov. plic. emarg.—Rac. lax.—Sep. 1 veined—Stig. ov. yell.—Style often tinged with violet—Filam. glab. in upper part.
8. Cor. ( $\frac{5}{8}$ – $\frac{3}{4}$  in.) erect pat. afterwards patent, whitish br., with violet veins, 1-nerved, gland. pilose on ext.—Upper lip emarg.—Sep. ent. or 2 cleft—Stem slend. gland. pilose—Stig. purp.
9. Cor. ( $\frac{5}{8}$ – $\frac{7}{8}$  in.) amethyst, purp. or whitish, at first porrect, after flowering bent down—Cal. with ent. seg.—Stig. viol., red-br. or yell.
10. Cor. ( $\frac{1}{4}$ – $\frac{2}{3}$  in.) ochroleuc. with viol. or bl. veins, erect pat. or curved downwards—Stig. purple—On clover, etc.
  - b. *Fl. wholly yellow.*
  - c. *Plant dark vi., more gland.—Fife.*
- \* \* *Calyx campan. of 4 or 5 parts—Bracts 3.*
11. St. simp.—Cor. ( $\frac{3}{4}$ –1 in.)—Cal. camp. 4-dentate, often triangular, shorter than tube.
  - b. *Cal. teeth equalling tube subu. or filiform—Cor. dark blue.*
- \*12. St. branched—Sep. 4—Cor. ( $\frac{1}{2}$  in.)—In hempfields—Very rare.

**Gen. II. Lathræa.** *Saprophytic parasite.*

1. Fl. drooping, unilat. subsec.—Lower lip of cor. 3 cleft—Paras. on roots of hazel, etc.

## ORD. LVII.—LENTIBULARIACEÆ.

**Gen. I. Utricularia.** *Submerged plant.*

1. Spur con. bl., bent down and appress. to lower lip.—Cor. ( $\frac{3}{4}$  in.) upper lip as long as pal.—Lower lip with reflexed margin.
2. Spur. con. bent but not appressed to lower lip—Upper lip 3 times as long as pal.—Lower lip spotted with choc. br., broad, flat, spreading.
3. Spur. coni.—Bladders on leafless branches—Upper cor. lip twice as long as pal.
4. Spur. short, obt.—Bladders on ls.—Upper cor. lip as long as palate—Lr. lip with recurved margin.
  - b. *Lr. lip of larger flower with a broad flat lip, not recurved at margin.*

ORD. LVII.—LENTIBULARIACEÆ (*continued*).

| Botanical Name.                | Common Name.            | Soil<br>or<br>Situation. | Colour.                        | Growth. | Duration<br>and<br>time of<br>flowering. |
|--------------------------------|-------------------------|--------------------------|--------------------------------|---------|--|
| <b>Gen. II. Pinguicula L.</b>  | <i>Butterwort</i>       |                          |                                |         |  |
| 1. <i>P. grandiflora</i> Lam.  | <i>Irish B.</i> . . .   | Bogs . . .               | Vi.                            | 4-6 in. | P. 5-6                                   |
| 2. <i>P. vulgaris</i> L. . .   | <i>Common B.</i> . . .  | Bogs . . .               | Vi.                            | 2-6 in. | P. 5-7                                   |
| <i>b. bicolor</i> Nordst..     | . . . . .               | . . . . .                | . . .                          | . . .   | . . .                                    |
| <i>c. alpicola</i> Reichb.     | . . . . .               | V. R. . . . .            | . . .                          | . . .   | . . .                                    |
| 3. <i>P. alpina</i> L. . . .   | <i>Alpine B.</i> . . .  | Scot. Bogs<br>V. R.      | W.                             | 2-4 in. | P. 5-7                                   |
| 4. <i>P. lusitanica</i> L. . . | <i>Western B.</i> . . . | Bogs . . .               | <i>ph.</i><br>Pk.<br>or<br>Li. | 2-4 in. | P. 6-10                                  |

## ORD. LVIII.—VERBENACEÆ.

|                                 |                      |             |              |         |        |
|---------------------------------|----------------------|-------------|--------------|---------|--------|
| <b>Gen. I. Verbena L.</b>       |                      |             |              |         |        |
| 1. <i>V. officinalis</i> L. . . | <i>Vervain</i> . . . | Wa. pl. . . | <i>ph</i> B. | 1-2 ft. | P. 7-9 |

## ORD. LIX.—LAMIACEÆ.

|                                    |                                  |               |       |         |         |
|------------------------------------|----------------------------------|---------------|-------|---------|---------|
| <b>Gen. I. Mentha L.</b>           | <i>Mint.</i>                     |               |       |         |         |
| A.<br>*                            |                                  |               |       |         |         |
| 1. <i>M. rotundifolia</i><br>Huds. | <i>Round-leaved</i><br><i>M.</i> | Wa. pl. . .   | Li.   | 2-3 ft. | P. 8-9  |
| <i>b. alopecuroides</i><br>(Hull)  | . . . . .                        | Wa. pl. . .   | Pk.   | 2-3 ft. | P. 8-9  |
| 2. <i>M. longifolia</i> Huds.      | <i>Long-leaved M.</i>            | Wa. pl., etc. | Li.   | 2-4 ft. | P. 8-9  |
| <i>b. nemorosa</i> (Willd.)        | . . . . .                        | . . . . .     | . . . | . . .   | . . .   |
| <i>c. mollissima</i> Benth.        | . . . . .                        | . . . . .     | . . . | . . .   | . . .   |
| *3. <i>M. spicata</i> L. . .       | <i>Spear mint</i> . .            | Wa. pl. . .   | Li.   | 1-3 ft. | P. 8-9  |
| *b. <i>crispa</i> (L.) . . .       | . . . . .                        | Wa. pl. . .   | . . . | . . .   | . . .   |
| **                                 |                                  |               |       |         |         |
| 4. × <i>M. piperita</i> L. .       | <i>Peppermint</i> . .            | Wet pl. . .   | Li.   | 1-2 ft. | P. 8-9  |
| <i>b. vulgaris</i> Sole . .        | . . . . .                        | . . . . .     | . . . | . . .   | . . .   |
| <i>c. citrata</i> Briq. . .        | <i>Bergamot M.</i> . .           | V. R. . . . . | . . . | . . .   | . . .   |
| 5. <i>M. aquatica</i> L. . .       | <i>Water M.</i> . . .            | Wet pl. . .   | Li.   | 1-4 ft. | P. 7-10 |
| <i>b. subglabra</i> (Baker)        | . . . . .                        | . . . . .     | . . . | . . .   | . . .   |



ORD. LVII.—LENTIBULARIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Pinguicula*.

1. Spur subu. shorter than veined cor. (1 in.)—Segm. of cor. contiguous.
2. Spur subu. as long as veinless cor. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.)—Segm. of cor. separated.  
*b. Fl. pale bl. and violet.*  
*c. Cor. ( $\frac{3}{4}$  in.) segm. broad, contig.—Ls. as type—West Ross.*
3. Spur coni., shorter than cor. ( $\frac{1}{2}$  in.) scape glab.—Very rare.
4. Spur cylind., obt. decurved, shorter than cor. ( $\frac{1}{2}$  in.)—Segm. of cor. equal—  
 Scape hairy—West of Britain.

## ORD. LVIII.—VERBENACEÆ.

Gen. I. *Verbena*.

1. St. erect, 4 angled—Ls. opp. trifid and ent.—Fl. sm. ( $\frac{1}{8}$  in.) in long spikes.

## ORD. LIX.—LAMIACEÆ.

Gen. I. *Mentha*.

A. *Throat of cal. naked—Fls. in term. spikes.*

\* *Ls. sess., or only lower ls. stalked.*

1. Ls. broadly ov., serr., rugose, shaggy beneath, blunt—Spikes interrupted—  
 Bract. ov. acum.—Stolons aerial—Calyx teeth  $\frac{1}{2}$  as long as tube.  
*b. Ls. very broad, base sub-cord.—Spikes short, stout, bracts shorter than fls.*  
*—Stolons sub-terrest.—Fl. blush coloured—Cal. teeth as long as tube.*
2. Ls. obl. ellip. serr. ac., not rugose, sub-glab.—Spike slender, continuous—Bract  
 subu.  
*b. Ls. obl. ov., rounded at base, densely hairy beneath.*  
*c. Ls. sub-cord., sub-acute, finely serr., hoary pubesc. above, white felted*  
*beneath.*
- \*3. Ls. glab. lanc. ac.—Spike cylind., interrupt.—Bract subu.—Smell very  
 pungent.  
*\*b. Ls. short, broad crisped, probably a hybrid of 1 × 3.*  
 \* \* *Ls. stalked.*
4. Ls. glab. ov. lanc.—Spikes lax, interrupted below—Often tinged with purple  
 —Taste of peppermint.  
*b. Ls. ov. sub-cord. at base—Spike more capitate.*  
*c. Whole pl. glab.—Fl. sub-cap.—Pedicels glab.—Scent of bergamot*  
*orange.*
5. Pl. hairy—Ls. ov. serr.—Spikes axill. and term. dense, capitate.  
*b. Pl. sub-glabrous except on nerves beneath, spike less capitate.*

ORD. LIX.—LAMIACEÆ (*continued*).

| Botanical Name.   | Common Name.            | Soil<br>or<br>Situation. | Colour.           | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|--------------------------|-------------------|----------|--|
| <b>Gen. I. <i>Mentha</i> L.</b><br>( <i>continued</i> ).              |                         |                          |                   |          |  |
| 6. × <i>M. pubescens</i><br><i>Willd.</i>                             | . . . .                 | Marshes. R.              | Li.               | 1-2 ft.  | P. 8-10                                  |
| <i>b. hircina</i> ( <i>Hull</i> )<br>B.                               | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| 7. × <i>M. verticillata</i><br><i>Huds.</i><br>( <i>M. sativa</i> L.) | <i>Whorled M.</i> .     | Marshes . .              | Li.               | 1-3 ft.  | P. 8-10                                  |
| <i>b. paludosa</i> ( <i>Sole</i> ) .                                  | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>c. subglabra</i> ( <i>Baker</i> )                                  | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| 8. × <i>gentilis</i> L. . . .   | . . . .                 | Marshes. R.              | Li.               | 1-2 ft.  | P. 8-10                                  |
| <i>b. elliptica</i> <i>Briq.</i> .                                    | ( <i>M. Pauliana</i> ). | . . . .                  | ..                | . .      | . .                                      |
| [ <i>c. pratensis</i> ( <i>Sole</i> ) .                               | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>d. gracilis</i> ( <i>Sole</i> ). .                                 | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| 9. × <i>M. cardiaca</i> <i>Baker</i>                                  | . . . .                 | Wa. pl. R. .             | <i>pu.</i><br>Li. | 1-2 ft.  | P. 7-10                                  |
| 10. × <i>M. rubra</i> <i>Sm.</i> .                                    | <i>Red M.</i> . . .     | Wat. pl. L. .            | Li.               | 2-5 ft.  | P. 7-10                                  |
| <i>b. Wirtgeniana</i> ( <i>Sch.</i> )                                 | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| 11. <i>M. arvensis</i> L. . .   | <i>Field M.</i> . . .   | Corn fie. etc.           | Li.               | 1-2 ft.  | P. 8-10                                  |
| <i>b. Nummularia</i><br>( <i>Schreb.</i> )                            | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>c. agrestis</i> <i>Sole</i> . .                                    | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>d. præcox</i> <i>Sole</i> . .                                      | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>e. Allionii</i> ( <i>Bor.</i> ) .                                  | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| <i>f. parietarifolia</i> <i>Beck.</i>                                 | . . . .                 | . . . .                  | ..                | . .      | . .                                      |
| C.  |                         |                          |                   |          |  |
| 12. <i>M. Pulegium</i> L. .   | <i>Pennyroyal</i> . .   | Dp. heaths .             | Li.               | 2-10 in. | P. 8-10                                  |
| <i>b. gigantea</i> <i>Lej. &amp;</i><br><i>Court.</i>                 | . . . .                 | . . . .                  | ..                | . .      | . .                                      |

(Many other varieties and hybrids of mints occur; these make the genus impossible to adequately describe in small space.)

**Gen. II. *Lycopus* L.**

- |                              |                      |             |    |         |        |
|------------------------------|----------------------|-------------|----|---------|--------|
| 1. <i>L. europæus</i> L. . . | <i>Gipsywort</i> . . | Wet pl. . . | W. | 1-3 ft. | P. 6-9 |
|------------------------------|----------------------|-------------|----|---------|--------|

**Gen. III. *Origanum* L.**

- |   |                     |               |     |         |        |
|---|---------------------|---------------|-----|---------|--------|
| 1. <i>O. vulgare</i> L. . . .             | <i>Marjoram</i> . . | Calc. pl. . . | Pu. | 1-2 ft. | P. 7-9 |
| <i>b. megastachyum</i><br>( <i>Link</i> ) | . . . .             | . . . .       | ..  | . .     | . .    |
| <i>c. albiflorum</i> <i>Lej.</i> .        | . . . .             | . . . .       | ..  | . .     | . .    |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Mentha* (*continued*).

6. A hybrid—Ls. obl. ellip., dull green and hairy above, densely pubescent or woolly beneath—Spike obl. cylind., dense, thick—Pedic. hairy.  
*b. Ls. obl. ellip. or ov. obl. green and sub-glab. above, hairy beneath.*  
*B. Throat of cal. naked—Fls. in axill. whorls.*
7. A hybrid of 5 × 10—Ls. ellip. serr., upper ls. smaller—Cal. teeth lanc. ac.—Pedi. hairy.  
*b. Upper whorls collected into a spike, with small bracts—Pl. hairy.*  
*c. Whorls all sep.—Bracts leaf-like—Plant sub-glab.*
8. Ls. ov., ac., serr., bracts all leaf-like, uppermost flowerless, ped. and cor. glab.—Cal. teeth densely cili.  
*b. St. nearly glab.—Ls. hairy above, glab. below, except on veins.*  
*c. Ls. drooping, rounded at both ends, finely serr.—Fl. in separate whorls, toward the top of stem—New Forest—Extinct.]*  
*d. Slender, green, ls. obl. lanc., glab. or sparingly hairy, whorls all sep., bracts all smaller and narrower than ls.*
9. × Nearly glab.—Bract sess. 2–4 times as long as crowded whorls—Strongly odorous of basil and spearmint.
10. × St. and nerves of ls. purp.—Ls. glab. or sub-glab., calyx hairy, ped. and cor. glab.  
*b. Ls. rather thin—Cal. teeth sparingly hairy—St. almost glab.*
11. Ls. obl. lanc.—Cal. campan. teeth triang., as long as broad.  
*b. Ls. not rugose, scarcely twice as long as broad, upper bracts scarcely diminishing in size.*  
*c. Ls. rugose, sub-cord. broader—Cal. very hairy.*  
*d. St. erect, thick hairy, upper bracts diminishing rapidly in size—Cal. teeth long.*  
*e. St. tall, slightly branched, sub-glab. below, slightly hairy above, upper bracts large.*  
*f. St. ascend. sub-glab.—Ls. sub-rhomb., 3 times as long as broad, atten. at each end, sub-glab.—Cal. teeth short.*  
*C. Throat of cal. hairy.*
12. St. prost.—Ls. ellip. obt.—Fl. in distant whorls—Odour characteristic.  
*b. St. ascending—Pl. larger.*

Gen. II. *Lycopus*.

1. Ls. deeply serr. or pinnfid., wrinkled—Fl. in dense whorls.

Gen. III. *Origanum*.

1. Ls. ov. obt.—Fl. panicled; bracts  $\frac{1}{4}$  in. ov. gr. or purp.—Pl. aromatic.  
*b. Spikes conspic. elongate, prismatic.*  
*c. Flowers white—Pl. pale gr.*



ORD. LIX.—LAMIACEÆ (*continued*).

| Botanical Name.   | Common Name.                            | Soil<br>or<br>Situation.       | Colour.                         | Growth.          | Duration<br>and<br>time of<br>flowering. |
|---|---|--------------------------------|---------------------------------|------------------|--|
| <b>Gen. IV. Thymus L.</b>   |   |                                |                                 |                  |  |
| 1. <i>T. glaber</i> Mill. . . .<br>( <i>T. Chamædrys</i> Fr.)                             | <i>Thyme</i> . . .                      | Hilly places.<br>L.            | Pu.                             | 2-8 in.          | 6-8                                      |
| <i>b. ovatus</i> (Mill.) . . .<br>( <i>T. Chamædrys</i> (Hayw.))                          | . . . .                                 | Heathy pl. .                   | . .                             | . .              | . .                                      |
| 2. <i>T. Serpyllum</i> L. . . .   | . . . .                                 | Dry past. etc.                 | Pu.                             | 2-8 in.          | 6-8                                      |
| <i>b. præcox</i> (Opiz) . . . .   | . . . .                                 | Calc. gr. etc.                 | . .                             | . .              | . .                                      |
| (Hybrids and other forms occur in this genus.)  |   |                                |                                 |                  |  |
| <b>Gen. V. Satureia L.</b>  |   |                                |                                 |                  |  |
|   | <i>Basil Thyme,</i><br><i>Calamint.</i> |                                |                                 |                  |  |
| 1. <i>S. grandiflora</i> Sch. . . .<br>( <i>Calamintha sylva-</i><br><i>tica Bromf.</i> ) | <i>Wood C.</i> . . .                    | Bushy pl. R.                   | <i>ph.</i><br>Ro.               | 1-2 ft.          | P. 8-9                                   |
| 2. <i>S. Calamintha</i> Sch.<br>( <i>Cal. officinalis</i> )                               | <i>Calamint</i> . .                     | Hedge bks. .                   | <i>ph.</i><br>Pu.               | 1-2 ft.          | P. 7-9                                   |
| <i>b. Briggsii</i> Druce . . .  | . . . .                                 | . . . .                        | . .                             | . .              | . .                                      |
| 3. <i>S. Nepeta</i> Sch. . . .<br>( <i>Cal. Nepeta</i> )                                  | <i>Lesser C.</i> . .                    | Hedge bks. .                   | <i>li.</i><br>B.                | 9-20 in.         | P. 7-8                                   |
| 4. <i>S. Acinos</i> Sch. . . .  | <i>Basil Thyme</i> .                    | Calc. soils,<br>corn fie. etc. | <i>bPu</i>                      | 4-10 in.         | A. or B.<br>6-9                          |
| 5. <i>S. vulgaris</i> Fritsch . .<br>( <i>Clinopodium vulgare</i> L.)                     | <i>Wild Basil</i> . .                   | Hedge bks.<br>etc.             | Pu.                             | 1-2 ft.          | P. 7-9                                   |
| <b>Gen. VI. Melissa L.</b>  |   |                                |                                 |                  |  |
| *1. <i>M. officinalis</i> L. . . .  | <i>Balm</i> . . . .                     | Wa. pl. . . .                  | W.                              | 1-2 ft.          | P. 7-9                                   |
| <b>Gen. VII. Salvia L.</b>  |   |                                |                                 |                  |  |
|   | <i>Sage.</i>                            |                                |                                 |                  |  |
| 1. <i>S. pratensis</i> L. . . .   | <i>Meadow S.</i> . .                    | Grassy pl. R.                  | B.                              | 2-4 ft.          | P. 6-8                                   |
| 2. <i>S. Verbenaca</i> L. . . .<br><i>b. rubella</i> , Jord & F.                          | <i>Clary</i> . . . .                    | Grav. pl. . .<br>Nr. Kew V.R.  | <i>bVi.</i><br><i>pu.</i><br>R. | 12-30 in.<br>. . | P. 5-8<br>. .                            |
| <i>c. Marquandii</i> Druce . . . .  | . . . .                                 | Sandy coast.<br>V. R.          | B.                              | . .              | . .                                      |
| <i>d. incisa</i> Benth. . . .   | . . . .                                 | Dry places .                   | <i>bVi.</i>                     | 9-18 in.         | . .                                      |
| *3. <i>S. verticillata</i> L. . . .   | . . . .                                 | Wa. pl. . .                    | B.                              | 12-24 in.        | P. 6-8                                   |
| <b>Gen. VIII. Nepeta L.</b>   |   |                                |                                 |                  |  |
| 1. <i>N. Cataria</i> L. . . .   | <i>Catmint</i> . . .                    | Hedges, etc.                   | W.                              | 2-3 ft.          | P. 7-9                                   |
| 2. <i>N. hederacea</i> Trev.  | <i>Ground Ivy</i> . .                   | Hedge bks.,<br>etc.            | B.                              | 6-18 in.         | P. 3-5                                   |
| <i>b. parviflora</i> (Benth.) . . . .   | . . . .                                 | . . . .                        | . .                             | . .              | . .                                      |
| <b>Gen. IX. Scutellaria L.</b>  |   |                                |                                 |                  |  |
| 1. <i>S. galericulata</i> L. . . .  | <i>Skull-cap</i> . . .                  | River sides .                  | B.                              | 6-18 in.         | P. 7-9                                   |
| <i>b. leiocarpa</i> Druce . . . .   | . . . .                                 | . . . .                        | . .                             | . .              | . .                                      |
| × <i>Nicholsoni</i> Taub. . . . .   | . . . .                                 | . . . .                        | . .                             | . .              | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IV. Thymus.**

1. Branches long, creeping—Ls. ( $\frac{1}{4}$ – $\frac{5}{16}$  in.) bright, shining, glab.—Inflores. elongated—Mountains—Local.  
*b. No stolons—Ls. ( $\frac{1}{4}$  in.)—Inflores. elong.—Pubesc. on stem chiefly in 2 lines.*
2. Stolons elongated, creeping, sterile—Fl. congested in terminal head.  
*b. Fl. in large terminal loose heads—Ls. very strongly nerved.*

**Gen. V. Satureia = Calamintha.**

1. St. flex.—Cor. ( $\frac{3}{4}$ –1 in. long) twice as long as cal. teeth, lobes of lower lip contig.—Upper teeth of cal. reflexed—Rare—Isle of Wight.
2. St. flex.—Cor. ( $\frac{1}{2}$  in.) mid-lobe of lower lip larger than and sep. from the lateral—Ped. short—Ls. dark gr.—Fl. pink-purp. marked with dk. purp.—Whorls compound.  
*b. Pedunc. in lower whorls equalling or exceeding pedic. of centr. fl. of cyme.*
3. St. sub-erect—Ls. greyish-gr. cren. serr.—Cor. ( $\frac{1}{2}$  in.) mid-lobe broad, truncate—Hairs of throat prom.—Flowers almost uniform in col., bluish—Whorls compound.
4. St. prost. slend.—Cor. ( $\frac{1}{2}$  in.) bluish-purp.—Throat closed with hairs—Whorls simple, 5–6 flowered—Cal. gibbous at base.
5. St. sub-erect—Cor. ( $\frac{3}{4}$ –1 in.) 2 or 3 times as long as cal., purplish crimson—Whorls dense, many flowered—Cal. equal at base.

**Gen. VI. Melissa.**

- \*1. Ls. (1–3 in.) ov. cren.-toothed, sweetly odorous—Stem many erect—Cor. ( $\frac{1}{2}$  in.) white or spotted with ro. in secund, axill., whorls.

**Gen. VII. Salvia.**

1. Ls. wrinkled (3–6 in.), st. ls. few—Cor. (1 in.) viscid, 3 times as long as cal.
  2. Upper ls. broad, cord.—Cor. narr. glab. inside, about as long as cal.  
*b. Flowers purplish red.*  
*c. Ls. obl.—Fl. longer than cal., pale blue—Guernsey.*  
*d. Ls. rather deeply cut—Salisbury Crags, Edinburgh.*
- \*3 Ls. triang. cord., lower auriculate—Whorls (of numerous fls.) sub-glab.

**Gen. VIII. Nepeta.**

1. St. erect—Ls. ov.-cord., serr., pubesc. beneath—Whorls dense—Nutlets smooth, glab.—Upper bracts sm.
2. St. procumb.—Ls. reni. ent. deeply cren.—Whorls 3–4 fl. axill.—Bracts leaf-like.  
*b. Cor. tube scarcely longer than cal.*

**Gen. IX. Scutellaria.**

1. Fl. blue ( $\frac{2}{3}$  in.)—Ls. all obl.-lanc., cord. cren.—Sep. pubesc.—Cor. tube curved.  
*b. Sepals glab.*  
*× hybrid of 1 × 2—Tall straggling—Virginia Water, etc.*

ORD. LIX.—LAMIACEÆ (*continued*).

| Botanical Name.  | Common Name.            | Soil<br>or<br>Situation. | Colour.         | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|--------------------------|-----------------|-----------|--|
| <b>Gen. IX. Scutellaria</b> <i>L.</i><br>( <i>continued</i> ). |                         |                          |                 |           |  |
| 2. <i>S. minor</i> <i>Huds.</i> . . .                          | <i>Sm. S.</i> . . .     | Boggy pl. .              | Pu.             | 4-12 in.  | P. 7-10                                  |
| <b>Gen. X. Prunella</b> <i>L.</i>                              |                         |                          |                 |           |  |
| 1. <i>P. vulgaris</i> <i>L.</i> . . .                          | <i>Self-heal</i> . . .  | Grassy pl. .             | Vi.             | 4-12 in.  | P. 7-9                                   |
| 2. <i>P. laciniata</i> <i>L.</i> . . .                         | . . . . .               | Grassy pl. R.            | cm.<br>W.       | 2-9 in.   | P. 7-8                                   |
| <b>Gen. XI. Melittis</b> <i>L.</i>                             |                         |                          |                 |           |  |
| 1. <i>M. Melissophyllum</i> <i>L.</i>                          | <i>Bastard Balm</i> .   | Woods. R. .              | pu.<br>W.       | 1-2 ft.   | P. 5-6                                   |
| <i>b. grandiflora</i> ( <i>Sm.</i> )                           | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |
| <b>Gen. XII. Marrubium</b> <i>L.</i>                           |                         |                          |                 |           |  |
| 1. <i>M. vulgare</i> <i>L.</i> . . .                           | <i>Horehound</i> . .    | W. pl. L. . .            | W.              | 1-2 ft.   | B. 7-10                                  |
| <b>Gen. XIII. Stachys</b> <i>L.</i>                            |                         |                          |                 |           |  |
| 1. <i>S. alpina</i> <i>L.</i> . . .                            | . . . . .               | Woods R. .               | Pu.             | 1-3 ft.   | P. 6-8                                   |
| 2. <i>S. germanica</i> <i>L.</i> . . .                         | . . . . .               | Calc. pl. R. .           | ro.<br>Pu.      | 1-3 ft.   | B. 7-8                                   |
| 3. <i>S. sylvatica</i> <i>L.</i> . . .                         | <i>Hedge W.</i> . . .   | Shady pl. .              | Pu.             | 1-3 ft.   | P. 7-8                                   |
| × <i>ambigua</i> <i>Sm.</i> . . .                              | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |
| 4. <i>S. palustris</i> <i>L.</i> . . .                         | <i>Marsh W.</i> . . .   | Fields, dp. pl.          | Pu.             | 1-3 ft.   | P. 7-8                                   |
| <i>b. canescens</i> <i>Lange</i> . . .                         | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |
| 5. <i>S. arvensis</i> <i>L.</i> . . .                          | <i>Field W.</i> . . .   | Cult. gr. . .            | p.<br>Pu.       | 4-18 in.  | A. 4-11                                  |
| *6. <i>S. annua</i> <i>L.</i> . . .                            | . . . . .               | Cult. gr., w.<br>pl. R.  | cm.<br>W.       | 4-12 in.  | A. 7-9                                   |
| 7. <i>S. officinalis</i> <i>Fr.</i> . . .                      | <i>Wood Betony</i> .    | Heaths . .               | Pu.             | 4-24 in.  | P. 6-9                                   |
| ( <i>Betonica officinalis</i> )                                | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |
| <i>b. nana</i> <i>Druce</i> . . .                              | . . . . .               | . . . . .                | . . .           | 1-4 in.   | . . .                                    |
| <b>Gen. XIV. Galeopsis</b> <i>L.</i>                           |                         |                          |                 |           |  |
| *  |                         |                          |                 |           |  |
| 1. <i>G. speciosa</i> <i>Mill.</i> . .                         | <i>Lge.-flowered H.</i> | Cult. gr. L. .           | Var.            | 1-2 ft.   | A. 7-8                                   |
| 2. <i>G. Tetrahit</i> <i>L.</i> . . .                          | <i>Common H.</i> . .    | W. pl., woods,<br>etc.   | Pu.             | 1-4 ft.   | A. 7-8                                   |
| <i>b. bifida</i> ( <i>Boenn.</i> ) . . .                       | . . . . .               | Cult. gr. . .            | Pu.             | 9-18 in.  | A.                                       |
| <i>c. nigricans</i> <i>Bréb.</i> . . .                         | . . . . .               | Woods and<br>hedges      | W.<br>or<br>Pu. | 2-4 ft.   | A.                                       |
| * *  |                         |                          |                 |           |  |
| 3. <i>G. dubia</i> <i>Leers</i> . . .                          | <i>Downy H.</i> . . .   | Cult. gr. R. .           | Y.              | 10-12 in. | A. 7-10                                  |
| ( <i>G. ochroleuca</i> <i>Lam.</i> )                           | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |
| 4. <i>G. Ladanum</i> <i>L.</i> . . .                           | <i>Red H.</i> . . .     | Cult. gr. . .            | Ro.             | 10-12 in. | A. 7-10                                  |
| * <i>b. intermedia</i> ( <i>Vill.</i> )                        | . . . . .               | . . . . .                | . . .           | . . .     | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IX. Scutellaria** (*continued*).

2. Fl. ( $\frac{1}{3}$  in.) pink purp.—Lower ls. broadly ov., upper lanc. ent.—Cor. tube straight.

**Gen. X. Prunella.**

1. St. erect—Ls. ov. obl. ent.—Whorls forming a dense spike with 2 ls. at base—Calc. teeth slightly cili.—Fl. vi., rarely pure white.  
 2. St. spread., prost. at base—Ls. pinnfid.—Cal. teeth strongly cili.—Fl. cream white, rarely blue.

**Gen. XI. Melittis.**

1. Ls. ov. or obl. cren. serr. (scented like Woodruff)—Cor. ( $1-1\frac{1}{2}$  in.) spotted pink or pu.  
*b. Cor. larger, cm. white, middle lobe of lower lip with large violet spot.*

**Gen. XII. Marrubium.**

1. St. erect, hoary—Ls. ov., cren., woolly, wrinkled—Whorls dense—Cor. ( $\frac{1}{2}$  in.).

**Gen. XIII. Stachys.**

1. St. erect, hairy, upper gland.—Floral ls. lge. serr. bract lin. lanc. equalling cal.—Cor. much longer than cal.—Cal. teeth broadly acum.  
 2. St. densely silky—Lower ls. obl. ov. cord. wrinkled, stalked, upper lanc. sess.—Spikes stout.  
 3. St. solid—Ls. all stalked, ov. cord. acum. ; upper ones lin., ent.  
 $3 \times 4$ —*Ls. narrower, shortly stalked.*  
 4. St. hollow—Ls. lin. lanc., cord. serr.—Lower ls. very shortly stalked.  
*b. Stem and ls. very hairy, grey felted.*  
 5. St. weak decumb.—Ls. cord. ov. obt.—Cor. ( $\frac{1}{3}$  in.) equalling cal.—Fl. p. pur.  
 \*6. Ls. glab. ovat. obl., fl. ls. lanc. acum. shortly mucro.—Fl. cream white  
 7. Lower ls. cord. obl., longstalked ; upper few, lin. sess.—Fl. in dense term. spikes—Cor. ( $\frac{3}{4}$  in.) red purple.  
*b. Ls. obl., plant very small.—Lizard downs, etc.*

**Gen. XIV. Galeopsis.**

\* *Hispid, stem thickened at joints.*

1. Cor. ( $1-1\frac{1}{2}$  in.) yellow and purple, upper lip arched, as broad as long—Cal. teeth shorter than tube.  
 2. Cor. ( $\frac{3}{4}$  in.) pu. or w., its tube as long as cal.—Cal. teeth twice as long as tube.  
*b. Cor. shorter than cal., its lower lip notched.*  
*c. Cal. blackish, its teeth long—Cor. often white with long tube.*

\*\* *Stem hairy, not thickened at joints.*

3. Gland. pubesc.—Cal. teeth not longer than tube—Cor. (1 in.) pale yellow—Very rare.  
 4. Downy—Ls. lanc.—Cor. rose, its upper lip slightly notched (*G. angustifolia*).  
 \**b. Ls. not narrowed below, regularly toothed—Whorls of fl. all separate.*  
 Several other varieties occur.

ORD. LIX.—LAMIACEÆ (*continued*).

| Botanical Name.                           | Common Name.             | Soil<br>or<br>Situation. | Colour.   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|--------------------------|-----------|----------|--|
| <b>Gen. XV. Leonurus</b> <i>L.</i>        |                          |                          |           |          |  |
| *1. <i>L. Cardiaca</i> <i>L.</i> . . .    | <i>Motherwort</i> .      | W. pl. R. .              | rW.       | 2-3 ft.  | P. 7-9                                   |
| <b>Gen. XVI. Lamium</b> <i>L.</i>         | <i>Dead-nettle.</i>      |                          |           |          |  |
| 1. <i>L. album</i> <i>L.</i> . . .        | <i>White D.</i> . .      | W. pl. . . .             | W.        | 1-2 ft.  | P. 5-9                                   |
| *2. <i>L. maculatum</i> <i>L.</i> .       | <i>Lge. Red D.</i> .     | W. pl. R. .              | Pu.       | 6-18 in. | P. 5-9                                   |
| * <i>b. laevigatum</i> ( <i>L.</i> ) .    |                          |                          |           |          |  |
| 3. <i>L. purpureum</i> <i>L.</i> .        | <i>Red D.</i> . . .      | W. pl., cult. gr.        | Pu.       | 4-18 in. | A. 4-10                                  |
| <i>b. decipiens</i> . . . .               | . . . .                  | Cult. gr. . .            | Pu.       | 4-18 in. | A. 4-10                                  |
| 4. <i>L. hybridum</i> <i>Vill.</i> .      | . . . .                  | Cult. gr. . .            | Pu.       | 4-18 in. | A. 4-10                                  |
| ( <i>L. incisum</i> )                     |                          |                          |           |          |  |
| 5. <i>L. amplexicaule</i> <i>L.</i> .     | . . . .                  | Dry pl. . .              | Pu.       | 4-12 in. | A. 5-8                                   |
| <i>b. mollucellifolium</i>                | . . . .                  | Cult. gr. N.             | . .       | . .      | 5-9                                      |
| ( <i>Fr.</i> )                            |                          | Brit.                    |           |          |  |
| ( <i>L. intermedium</i> )                 |                          |                          |           |          |  |
| 6. <i>L. Galeobdolon</i> <i>Cr.</i> .     | <i>Yellow Arch-angel</i> | Woods . . .              | Y.        | 6-18 in. | P. 5-6                                   |
| <b>Gen. XVII. Ballota</b> <i>L.</i>       | <i>Black Horehound</i>   |                          |           |          |  |
| 1. <i>B. nigra</i> <i>L.</i> . . .        | . . . .                  | Roadsides,<br>w. pl.     | Pu.       | 1-3 ft.  | P. 6-10                                  |
| <i>b. ruderalis</i> <i>Koch</i> .         | . . . .                  | W. pl. .                 | . .       | . .      | . .                                      |
| <i>c. borealis</i> ( <i>Schw.</i> ) .     | . . . .                  | . . . .                  | . .       | . .      | . .                                      |
| <i>d. membranacea</i>                     | . . . .                  | . . . .                  | . .       | . .      | . .                                      |
| <i>Druce</i>                              |                          |                          |           |          |  |
| <b>Gen. XVIII. Teucrium</b><br><i>L.</i>  |                          |                          |           |          |  |
| 1. <i>T. Scorodonia</i> <i>L.</i> .       | <i>Wood Sage</i> . .     | Heathy pl. .             | yW.       | 6-24 in. | P. 7-9                                   |
| <i>b. dentatum</i> <i>Bab.</i> .          | . . . .                  | . . . .                  | . .       | . .      | . .                                      |
| 2. <i>T. Scordium</i> <i>L.</i> . .       | <i>Water German-der</i>  | Marshes. V. R.           | Pu.       | 4-24 in. | P. 7-10                                  |
| 3. <i>T. Botrys</i> <i>L.</i> . . .       | . . . .                  | Calc. pl. R. .           | Ro.       | 4-12 in. | B. 7-9                                   |
| *4. <i>T. Chamædryas</i> <i>L.</i> .      | . . . .                  | Old walls, etc.<br>R.    | Ro.       | 4-15 in. | P. 7-9                                   |
| <b>Gen. XIX. Ajuga</b> <i>L.</i>          |                          |                          |           |          |  |
| 1. <i>A. reptans</i> <i>L.</i> . . .      | <i>Bugle</i> . . . .     | Woods. . .               | B.        | 4-12 in. | P. 5-7                                   |
| <i>b. pseudo-alpina</i> . .               | . . . .                  | . . . .                  | . .       | . .      | . .                                      |
| 2. <i>A. pyramidalis</i> <i>L.</i> .      | . . . .                  | Sha. alp. pl.<br>V. R.   | pu.<br>B. | 6-12 in. | P. 5-7                                   |
| 3. <i>A. Chamæpitys</i><br><i>Schreb.</i> | <i>Ground Pine</i> .     | Calc. pl. R. .           | Y.        | 3-6 in.  | P. 5-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XV. Leonurus.**

- \*1. Lower ls. palm., five cleft, upper ent.—Fl. in crowded whorls—Upper lip of cor. hairy—Cal. teeth sharp.

**Gen. XVI. Lamium.**

1. Cor. ( $\frac{3}{4}$ –1 in.) white—Hairs on cor. tube oblique—Tube curved—Ls. unspotted—Anth. hairy.
- \*2. Cor. ( $\frac{3}{4}$ – $\frac{7}{8}$  in.) purple—Hairs in cor. tube transverse—Tube curved—Ls. spotted with white—Anth. hairy.
- \*b. *Ls. not spotted—Rare.*
3. Ls. all stalked, cord. cren.—Tube of cor. longer than cal.—Cal. teeth spreading.
- b. *Ls. deeply crenate.*
4. Ls. stalked, cord., deeply inciso-serr.—Tube of cor. shorter than cal.
5. Upper ls. sess. orb. wrinkled—Cor. long slender—Cal. teeth connivent in fr., as long as cal. tube.
- b. *More succulent—Cal. teeth always spreading, and much longer than tube.*
6. Lobes of lower lip of cor. equal—Cor. ( $\frac{3}{4}$ –1 in.) yellow—Ls. ov. ac. coarsely serr.—Anthers glab.

**Gen. XVII. Ballota.**

1. Ls. ov. serr.—Bract lin.—Teeth of cal. ov., suddenly acum.
- b. *Teeth of cal. lanc., grad. acum.—Rare.*
- c. *Ls. sm. hoary—Cal. teeth as in type.*
- d. *Ls. large, thin in texture, softly hairy—West of Engl. (ruderalis Bab. in part).*

**Gen. XVIII. Teucrium.**

1. Ls. rugose, stalked, ov.-cord.—Fl. unilat. in lat. and term. rac.—Cor. ( $\frac{1}{2}$  in.).
- b. *Ls. deeply cut.*
2. Ls. obl. sess.—Fl. in axill. whorls—Cor. ( $\frac{1}{2}$ – $\frac{5}{8}$  in.) purple.
3. Ls. pinnfid., seg. obl. or cut—Fl. in axill. whorls—Cor. ( $\frac{2}{3}$  in.) ro. purp.—nutlets deeply pitted.
- \*4. Ls. stalked, ov. incised-cren., bract sess. leaf-like—Rootstock cr. stoloniferous—Pl. slightly hispid—Nutlets nearly smooth.

**Gen. XIX. Ajuga.**

1. Glab.—St. with creeping scions—Fl. in loose spike.
- b. *No creeping scions.*
2. Hairy—No scions—Fl. in comp. pyramidal spike—Calyx woolly.
3. Ls. trifid; segm. lin.—Fl. sol. yellow axill.



## ORD. LX.—PLANTAGINACEÆ.

| Botanical Name.   | Common Name.                  | Soil or Situation.              | Colour.   | Growth.   | Duration and time of flowering. |
|---|-------------------------------|---------------------------------|-----------|-----------|---------------------------------|
| <b>Gen. I. Plantago L.</b>  | <i>Plantain.</i>              |                                 |           |           |                                 |
| *1. <i>P. ramosa</i> Asch. . . . .<br>( <i>P. arenaria</i> W. & K.) | . . . . .                     | W. pl. . . . .                  | gW.       | 6-18 in.  | A. 6-9                          |
| 2. <i>P. Coronopus</i> L. . . . .<br><i>b. ceratophyllon</i> (Rap.) | <i>Buckshorn P.</i> . . . . . | Dry pl. . . . .                 | G.        | 1-8 in.   | A. 6-7                          |
| <i>c. pygmæa</i> (Lange) . . . . .                                  | . . . . .                     | . . . . .                       | . . . . . | . . . . . | . . . . .                       |
| 3. <i>P. maritima</i> L. . . . .                                    | <i>Sea P.</i> . . . . .       | Shores and wet pl. . . . .      | G.        | 1-12 in.  | P. 6-9                          |
| <i>b. lanata</i> Edmst. . . . .                                     | . . . . .                     | . . . . .                       | . . . . . | . . . . . | . . . . .                       |
| <i>c. latifolia</i> Syme . . . . .                                  | . . . . .                     | . . . . .                       | . . . . . | . . . . . | . . . . .                       |
| 4. <i>P. lanceolata</i> L. . . . .                                  | <i>Ribwort P.</i> . . . . .   | Grassy pl. . . . .              | gW.       | 2-12 in.  | P. 6-9                          |
| * <i>b. Timbali</i> (Jord.) . . . . .                               | . . . . .                     | Cult. gr. . . . .               | . . . . . | 12-18 in. | . . . . .                       |
| <i>c. sphærostachya</i> Roehl. . . . .                              | . . . . .                     | Dry pl. co. and mt. . . . .     | . . . . . | 1-4 in.   | . . . . .                       |
| *5. <i>P. argentea</i> L. . . . .                                   | . . . . .                     | W. pl. . . . .                  | . . . . . | 3-6 in.   | P. 7-8                          |
| 6. <i>P. media</i> L. . . . .                                       | <i>Hoary P.</i> . . . . .     | Calc. past. . . . .             | G.        | 6-12 in.  | P. 6-10                         |
| 7. <i>P. major</i> L. . . . .                                       | <i>Great P.</i> . . . . .     | Fie. and w. pl. . . . .         | G.        | 2-9 in.   | P. 5-9                          |
| <i>b. intermedia</i> (Gil.) . . . . .                               | . . . . .                     | . . . . .                       | . . . . . | 1-3 in.   | . . . . .                       |
| <b>Gen. II. Littorella Berg.</b>                                    |                               |                                 |           |           |                                 |
| 1. <i>L. uniflora</i> Asch. . . . .<br>( <i>L. lacustris</i> L.)    | <i>Shoreweed</i> . . . . .    | Shall. marg. of lakes and ponds | G.        | 1-3 in.   | P. 6-8                          |

## ORD. LXI.—ILLECEBRACEÆ.

|                                       |                             |                                |           |           |           |
|---------------------------------------|-----------------------------|--------------------------------|-----------|-----------|-----------|
| <b>Gen. I. Illecebrum L.</b>          |                             |                                |           |           |           |
| 1. <i>I. verticillatum</i> L. . . . . | <i>Knot-grass</i> . . . . . | Wet sandy pl. V. R.            | W.        | 2-8 in.   | P. 7-8    |
| <b>Gen. II. Herniaria L.</b>          | <i>Rupture wort.</i>        |                                |           |           |           |
| 1. <i>H. glabra</i> L. . . . .        | <i>Smooth R.</i> . . . . .  | Dry pl. L. . . . .             | G.        | 4-6 in.   | P. 7-8    |
| <i>b. ciliata</i> (Bab.) . . . . .    | . . . . .                   | . . . . .                      | . . . . . | . . . . . | . . . . . |
| *2. <i>H. hirsuta</i> L. . . . .      | <i>Hairy R.</i> . . . . .   | W. pl. cult. gr. . . . .       | G.        | 4-6 in.   | A. 7-8    |
| <b>Gen. III. Corrigiola L.</b>        |                             |                                |           |           |           |
| 1. <i>C. littoralis</i> L. . . . .    | <i>Strapwort</i> . . . . .  | Dp. sandy pl. nr. coast, V. R. | W.        | 3-9 in.   | A. 7-8    |
| <b>Gen. IV. Scleranthus L.</b>        |                             |                                |           |           |           |
| 1. <i>S. perennis</i> L. . . . .      | <i>Knawel</i> . . . . .     | Dry fie. V. R.                 | G.        | 2-8 in.   | P. 6-9    |
| 2. <i>S. annuus</i> L. . . . .        | . . . . .                   | Cult. gr. etc. . . . .         | G.        | 2-8 in.   | A. 6-9    |
| <i>b. hibernus</i> Reichb. . . . .    | . . . . .                   | Dry pl. . . . .                | . . . . . | 2-4 in.   | B. 6-9    |

## ORD. LX.—PLANTAGINACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Plantago.**

- \*1. Stem leafy, branched—Ls. opp. lin. nearly ent.—Spike on long ped.
- 2. Ls. lin. pinnfid.—Scape round, hairy—Spike cylind., slender—Very variable.
  - b. Ls. broadly lin. (3-5 veined).*
  - c. Pl. sm. with short few-flowered spikes—Ls. nearly ent.*
- 3. Ls. lin. fleshy—Scape round—Spike cylind. ; sep. not keeled.
  - b. Pl. sm.—Ls. hairy—North Scot.*
  - c. Ls. broadly lin.—Pl. robust.*
- 4. Ls. lanc. 5 ribbed, narrowed at each end—Scape furrowed—Very variable.
  - b. Margin of bracts scarious—Pl. tall, robust.*
  - c. Pl. sm.—Spike small glob. few flowered—Ls. narrow.*
- \*5. Ls. lin. silky—Scape erect terete—Spike glob.—Bract obov. obt., silky—A casual.
- 6. Ls. ellip. sess. or shortly stalked—Scape round, pubesc.—Spike obl. cyl. dense—Sep. not keeled—Filam. long purple—Sweet scented—Anth. yellow.
- 7. Ls. broadly oval, on long grooved stalks—Scape round—Spike long—Sep. with prom. rib—Anth. purp.
  - b. Dwarf, downy, scapes ascending—Ls. 3-veined.*

**Gen. II. Littorella.**

- 1. Ls. all rad., lin., fleshy—Fert. fls. sess. ; barren fls. sol. stalked, axill.

## ORD. LXI.—ILLECEBRACEÆ.

**Gen. I. Illecebrum.**

- 1. St. fili., prost., covered throughout with ls. and small tufts of white fl.—Ls. ( $\frac{1}{8}$ — $\frac{1}{4}$  in.) ovate glab.—Berks, Devon, and Cornwall.

**Gen. II. Herniaria.**

- 1. St. prost.—Ls. ( $\frac{1}{8}$ — $\frac{1}{4}$  in.) obl. glab.—Fl. sess. in axill. spike-like clusters.
  - b. Ls. rather broader, orb., cili.—Fl. in distinct clusters—Lizard, Ch. Is.*
- \*2. Ls. ellip. obl. hirsute, yellowish-grey.

**Gen. III. Corrigiola.**

- 1. St. many, prost.—Ls. ( $\frac{1}{3}$ — $\frac{1}{2}$  in. long) lin. lanc.—Stip.  $\frac{1}{2}$  sagit.—Fl. in crowded term. cymes—Devon.

**Gen. IV. Scleranthus.**

- 1. St. nearly simp.—Seg. of cal. obt. connivent in fr. with broad scarious marg.—Cal. tube pubesc., bract shorter than 2.
- 2. St. much branched—Seg. of cal. acute, spreading in fr., slightly scarious.
  - b. Biennial—Stem shorter.*

## ORD. LXII.—AMARANTACEÆ.

| Botanical Name.                    | Common Name.     | Soil<br>or<br>Situation. | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|------------------------------------|------------------|--------------------------|---------|---------|--|
| <b>Gen. I. Amaranthus L.</b>       | <i>Amaranth.</i> |                          |         |         |  |
| *1. <i>A. retroflexus</i> L. . . . | . . . .          | W. pl. R. . . .          | . . .   | 1-2 ft. | A. 7-9                                   |
| *2. <i>A. Blitum</i> L. . . .      | . . . .          | W. pl. R. . . .          | . . .   | 1-2 ft. | A. 7-9                                   |

## ORD. LXIII.—CHENOPODIACEÆ.

|  |                          |                               |       |          |         |
|--|--------------------------|-------------------------------|-------|----------|---------|
| <b>Gen. I. Chenopodium L.</b>                                  | <i>Goosefoot.</i>        |                               |       |          |         |
| 1. <i>C. rubrum</i> L. . . .                                   | <i>Red G.</i> . . .      | W. pl. . . .                  | . . . | 2-36 in. | A. 8-10 |
| <i>b. pseudo-botryoides</i><br>Syme                            | . . . .                  | Wet pl. . . .                 | . . . | 2-6 in.  | . . .   |
| 2. <i>C. botryodes</i> Sm. . . .                               | . . . .                  | Muddy co. or<br>tidal riv. R. | . . . | 4-12 in. | A. 8-10 |
| 3. <i>C. Bonus-Henricus</i> L.<br>*                            | <i>Good King Henry</i>   | Waysides . . .                | . . . | 9-24 in. | P. 6-10 |
| 4. <i>C. hybridum</i> L. . . .                                 | <i>Maple-leaved G.</i>   | W. pl. R. . . .               | . . . | 6-36 in. | A. 8-9  |
| 5. <i>C. urbicum</i> L. . . .                                  | <i>Upright G.</i> . . .  | W. pl. L. . . .               | . . . | 1-3 ft.  | A. 8-9  |
| <i>b. intermedium</i> Moq.                                     | . . . .                  | . . . .                       | . . . | . . .    | . . .   |
| 6. <i>C. murale</i> L. . . .                                   | <i>Nettle-leaved G.</i>  | W. pl. L. . . .               | . . . | 6-18 in. | A. 8-9  |
| * * *  |                          |                               |       |          |         |
| *7. <i>C. opulifolium</i><br>Schröd.                           | . . . .                  | W. pl. L. . . .               | . . . | 1-3 ft.  | A. 8-9  |
| 8. <i>C. album</i> L. . . .                                    | <i>Fat hen. White G.</i> | W. pl. . . .                  | . . . | 6-24 in. | A. 8-9  |
| <i>b. viride</i> Syme. . . .                                   | . . . .                  | . . . .                       | . . . | 2-4 ft.  | . . .   |
| <i>c. viridescens</i> St. Am.                                  | . . . .                  | . . . .                       | . . . | 2-4 ft.  | . . .   |
| * <i>d. leptophyllum</i><br>(Nutt.)                            | . . . .                  | . . . .                       | . . . | . . .    | . . .   |
| 9. <i>C. serotinum</i> L. . . .<br>( <i>C. ficifolium</i> Sm.) | . . . .                  | W. pl. L. . . .               | . . . | 1-3 ft.  | A. 7-9  |
| 10. <i>C. glaucum</i> L. . . .                                 | . . . .                  | W. pl. R. . . .               | . . . | 4-18 in. | A. 7-9  |
| 11. <i>C. Vulvaria</i> L. . . .                                | <i>Stinking G.</i> . . . | W. pl. R. . . .               | . . . | 6-18 in. | A. 7-9  |
| 12. <i>C. polyspermum</i> L.<br><i>b. cymosum</i> Moq. . . .   | <i>Many-seeded G.</i>    | W. pl. cult. gr. . . .        | . . . | 6-24 in. | A. 7-9  |
| *13. <i>C. capitatum</i> Asch. . .                             | <i>Strawberry Blite</i>  | W. gr. R. . . .               | . . . | 6-24 in. | A. 7-9  |
| * <i>b. virgatum</i> (L.). . . .                               | . . . .                  | . . . .                       | . . . | . . .    | . . .   |
| <b>Gen. II. Beta L.</b>  |                          |                               |       |          |         |
| 1. <i>B. maritima</i> L. . . .                                 | <i>Sea Beet</i> . . .    | Marit. pl. . . .              | . . . | 1-3 ft.  | P. 6-10 |



## ORD. LXII.—AMARANTACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Amaranthus*.

- \*1. St. erect, hairy—Ls. oval, stalked—Fl. in axill. spikes, the upper grouped in large dense term. spike—Bract subu. longer than cal.—Sta. 5.  
 \*2. St. decumb.—Ls. obl. ov., long stalked—Fl. minute in sm. axill. clusters—Glab.—Sta. 3.

## ORD. LXIII.—CHENOPODIACEÆ.

Gen. I. *Chenopodium*.

1. Ls. all triang. irreg. toothed, glab.—Spikes erect, leafy—Fl. crowded—Seed vertical.  
*b. Pl. sm. reddish—Ls. rhomb., spikes shorter.*
2. St. prost.—Ls. fleshy, triang. slightly toothed—Fl. in dense cymes.—Seed vertical.
3. Perenn.—Ls. triang. hast., acum.—Fl. in term. comp. spikes.  
*\* Seeds horizontal—Ls. green beneath.*
4. Ls. cord. ang., teeth large, distant—Spikes in axill. lax. corymb.—Seed not keeled.
5. Ls. triang., toothed, their base narrowed into stalk—Spike long erect—Fl. in sm. remote clusters.  
*b. Ls. with lge. acute teeth.*
6. Ls. ov. rhomb., sharply and unequally toothed—Branches of spike spreading—Fl. cymose, seeds keeled.  
*\* \* Seed horiz.—Ls. glauc. or mealy beneath.*
- \*7. Ls. rhomb. delt. sub-trilobed, short, unequally toothed, obt.—Stem ls. short, very obt.
8. Ls. ov. rhomb. ent. at base, very mealy, upper lanc. ent.—Spikes dense, leafy, simp.  
*b. Ls. sparingly mealy, nearly ent.—Spikes lax branches.*  
*c. Ls. sparingly mealy, obtusely serr.—Spikes lax, erect, axill., or in term. pan.*  
*\*d. Ls. lin.; a casual.*  
*Many other forms have been described by Dr. Murr.*
9. Ls. ov. obl. unequally 3 lobed, base wedge shaped—Upper ls. lin. lanc.—Spike leafy at base, with erect branches.
10. St. prost.—Ls. all obl., toothed, very white below—Spikes erect, simp. leafless—Seed vertical.
11. Ls. ent. stalked, ov. mealy, fœtid—Fl. in dense leafless spikes.
12. Ls. ent. ov. ellip. acute, not fœtid—St. ascend.—Fl. in long axill., leafless rac.  
*b. St. decumb.—Ls. obt.*
- \*13. Ls. triang. sub-hast., slightly toothed, glab.—Spike naked—Fruit red, succulent, like sm. strawberries.  
*\*b. Fl. glomerate, all axillary.*

Gen. II. *Beta*.

1. St. many proc. at base—Ls. ov. cun., fleshy, narrowed into stalk—Glab. shining—Spikes long, simp. leafy.

ORD. LXIII.—CHENOPODIACEÆ (*continued*).

| Botanical Name.   | Common Name.              | Soil<br>or<br>Situation. | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|---------------------------|--------------------------|---------|----------|--|
| <b>Gen. III. Atriplex L.</b>                                      | <i>Orach.</i>             |                          |         |          |  |
| *1. <i>A. hortensis</i> L. . . .                                  | <i>Garden O.</i> . . .    | W. pl. . . .             | . . .   | 1-3 ft.  | P. 7-10                                  |
| <i>b. rubra</i> . . . .   | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| *2. <i>A. Halimus</i> L. . . .                                    | <i>Shrubby O.</i> . . .   | Coast . . . .            | . . .   | 2-6 ft.  | Shb. 7-9                                 |
| 3. <i>A. littoralis</i> L. . . .                                  | <i>Grass-leaved O.</i>    | Salt ma. . . .           | . . .   | 1-2 ft.  | A. 7-9                                   |
| <i>b. serrata</i> Moq. . . .                                      | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| 4. <i>A. patula</i> L. . . .                                      | <i>Orach</i> . . . .      | Wa. pl. . . .            | . . .   | 1-4 ft.  | A. 7-9                                   |
| <i>b. erecta</i> (Huds.) . . .                                    | . . . .                   | Wa. pl. . . .            | . . .   | 1-4 ft.  | . . .                                    |
| <i>c. angustifolia</i> (Sm.) . . .                                | . . . .                   | Cult. gr. . . .          | . . .   | 6-18 in. | . . .                                    |
| 5. <i>A. hastata</i> L. . . .                                     | <i>Orach</i> . . . .      | Wa. pl. . . .            | . . .   | 6-48 in. | A. 7-9                                   |
| <i>b. calotheca</i> (Fr.) . . .                                   | . . . .                   | ? Sc. coast.<br>V.R.     | . . .   | 6-18 in. | . . .                                    |
| <i>c. deltoidea</i> (Bab.) . . .                                  | . . . .                   | Wa. pl. . . .            | . . .   | 6-24 in. | . . .                                    |
| <i>d. prostrata</i> (Bouch.)<br>( <i>triangularis</i> Bab.) . . . | . . . .                   | Sea co. . . .            | . . .   | 6-24 in. | . . .                                    |
| 6. <i>A. glabriuscula</i> Edm. . . .                              | . . . .                   | Sea co. . . .            | . . .   | 6-36 in. | A. 7-9                                   |
| <i>b. Babingtonii</i> (Woods)                                     | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| 7. <i>A. laciniata</i> L. . . .                                   | . . . .                   | Sea co. L. . . .         | . . .   | 6-12 in. | A. 7-10                                  |
| *   |                           |                          |         |          |  |
| 8. <i>A. Portucaloides</i> L. . . .                               | <i>Sea Purslane</i> . . . | Muddy salt<br>ma.        | . . .   | 1-2 ft.  | P. 8-10                                  |
| 9. <i>A. pedunculata</i> L. . . .                                 | . . . .                   | Mud. shores.<br>V.R.     | . . .   | 3-8 in.  | A. 8-10                                  |
| <b>Gen. IV. Salicornia L.</b>                                     |                           |                          |         |          |  |
| 1. <i>S. perennis</i> Mill. . . .                                 | <i>Glasswort</i> . . .    | Salt ma. L. . . .        | . . .   | 6-18 in. | P. 8-9                                   |
| <i>b. lignosa</i> (Woods) . . .                                   | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| 2. <i>S. europæa</i> L. . . .                                     | . . . .                   | Salt ma. . . .           | . . .   | 6-18 in. | A. 8-9                                   |
| <i>a. procumbens</i> (Sm.) . . .                                  | . . . .                   | . . . .                  | . . .   | 4-8 in.  | . . .                                    |
| <i>b. annua</i> (Sm.) . . .                                       | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| <i>c. ramosissima</i><br>(Woods) . . . .                          | . . . .                   | . . . .                  | . . .   | 6-18 in. | . . .                                    |
| <i>d. pusilla</i> (Townsend) . . .                                | . . . .                   | . . . .                  | . . .   | 2-6 in.  | . . .                                    |
| <i>e. gracillima</i> (Woods) . . .                                | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| <i>f. intermedia</i> (Woods) . . .                                | . . . .                   | . . . .                  | . . .   | 6-12 in. | . . .                                    |
| <i>g. appressa</i> (Dum.) . . .                                   | . . . .                   | . . . .                  | . . .   | 6-12 in. | . . .                                    |
| <b>Gen. V. Suaeda Forsk.</b>                                      |                           |                          |         |          |  |
| 1. <i>S. fruticosa</i> Forsk. . . .                               | <i>Seablite</i> . . .     | Shingly pl. R. . . .     | . . .   | 1-3 ft.  | P. 7-9                                   |
| 2. <i>S. maritima</i> Dum. . . .                                  | . . . .                   | Salt ma. . . .           | . . .   | 3-18 in. | A. 7-9                                   |
| <i>b. procumbens</i> Syme. . . .                                  | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |
| <b>Gen. VI. Salsola L.</b>  |                           |                          |         |          |  |
| 1. <i>S. Kali</i> L. . . .  | <i>Saltwort</i> . . .     | San. sh. . . .           | . . .   | 6-18 in. | A. 7-8                                   |
| * <i>b. tenuifolia</i> Mey. . . .                                 | . . . .                   | . . . .                  | . . .   | . . .    | . . .                                    |

ORD. LXIII.—CHENOPODIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. III. Atriplex.**

- \*1. St. erect—Ls. triang.-cord. toothed, green, opaque, cal. sub-rotund, ent.  
*b. Ls. purplish-red.*
- \*2. Branches white—Ls. rhomb. silvery—Planted on southern coast.
- 3. Ls. ent. lin. lanc.—Fl. in axill., sess. clusters.  
*b. Ls. ov. lanc. serr.*
- 4. Lr. ls. rhombic or rhomb. hastate with ascend. cusps from cuneate base—  
 Spikes simp., leafy below.  
*b. St. erect, spikes dense flowered—Lower ls. sinuate.*  
*c. St. procumb., ascend.—Ls. narr. lanc.—Spikes nearly simp. interrupted.*
- 5. Ls. hast.-triang., lobes spreading—Spikes simp. or panicled, interrupted, leafy  
 at base, sep. delt.—Very variable.  
*b. St. prost., ls. more fleshy—Sep. deeply cut with slender teeth.*  
*c. Upper ls. hast.—Spikes dense.*  
*d. St. and branches prost.—Sep. slightly toothed or ent.*
- 6. St. proc.—Ls. ov. triang. dark green—Upper lanc., 2 lobed at base—Fl. axill.  
 and term.—Sep. connate at hardened base—Sparingly mealy.  
*b. Ls. pale gr. or reddish, vy. mealy—St. gr. with reddish stripes, vy. var'ble.*
- 7. St. buff—Ls. triang. rhomb., lacin., silvery white—Fl. in axill. sess. clusters  
 —Sep. connate at hardened base.  
*\* Pericarp adherent to cup-shaped perianth = Obione.*
- 8. Shrubby, mealy—Ls. ov. lanc., ent., silv. white—Fr. sess.
- 9. Herb. mealy—Ls. obov. ent.—Fr. long-stalked, lobes 2 recurved.

**Gen. IV. Salicornia.** (See Appendix.)

- 1. St. woody creeping, spikes obl. obt.—*S. radicans* Sm.  
*b. St. firmer, little rooting.*
- 2. St. proc., herb., its joints thickened upwards—Spikes cylind., tapering.  
*a. Decumbent—Colour at maturity red—Lower branches much longer than the upper ones.*  
*b. St. erect—Spikes cylind. 2-3 in. long—Colour always green. (S. stricta Dum.)*  
*c. St. much branched, grass green, spikes somewhat lanc., about 1 in. long.*  
*d. Very small—Spikes about  $\frac{1}{4}$  in., few fld., almost globular.*  
*e. Like d., but spikes somewhat larger and longer, whole pl. less fleshy.*  
*f. Erect—Spikes cyl. about 1 in., sometimes much branched.*  
*g. St. lax. proc., appressed to the mud, branches forming a triangular fan—Spikes acute.*

**Gen. V. Suaeda = Dondia** *Adans. (the older name).*

- 1. St. shrubby, perenn.—Ls. ( $\frac{1}{4}$ – $\frac{2}{3}$  in.) obt. fleshy, dotted with white—Sty. 3.
- 2. St. herb. ann. erect—Ls. ( $\frac{1}{4}$ – $1\frac{1}{4}$  in.) acute—Sty. 2.  
*b. St. procumbent.*

**Gen. VI. Salsola.**

- 1. St. prost.—Ls. subu. fleshy, rigid, spiny—Fl. axill. sol.  
*\*b. St. erect—Ls. not spiny, lin.—Sussex Co.*



## ORD. LXIV.—POLYGONACEÆ.

| Botanical Name.  | Common Name.                    | Soil or Situation.       | Colour.         | Growth.  | Duration and time of flowering. |
|--|---------------------------------|--------------------------|-----------------|----------|---------------------------------|
| <b>Gen. I. Polygonum L.</b>  |                                 |                          |                 |          |                                 |
| 1. <i>P. dumetorum</i> L. . . . .  | . . . . .                       | Hedges. L. . .           | Gr.             | 2-5 ft.  | A. 8-9                          |
| 2. <i>P. Convolvulus</i> L. . . . .  | <i>Black Bindweed</i>           | Cult. gr., etc.          | Gr.             | 1-4 ft.  | A. 8-9                          |
| <i>b. subalatum</i> L. & C.  | . . . . .                       | Cult. gr. . . .          | . . .           | . . .    | . . .                           |
| 3. <i>P. Bistorta</i> L. . . . .   | <i>Bistort</i> . . . .          | Moi. mead. . .           | Pk.             | 1-2 ft.  | P. 6-9                          |
| 4. <i>P. viviparum</i> L. . . . .  | <i>Alpine B.</i> . . .          | Alp. past. . .           | W.<br>or<br>Pk. | 4-8 in.  | P. 6-7                          |
| <i>b. alpinum</i> Wahl. . . . .  | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| 5. <i>P. amphibium</i> L. . . . .  | <i>Flo. Persicaria</i>          | Streams and<br>moi. fie. | Pk.             | 2-3 ft.  | P. 7-8                          |
| <i>b. terrestre</i> Leers. . . . .   | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| 6. <i>P. Lapathifolium</i> L. . . . .  | <i>Pale Persic.</i> . .         | Cult. gr., etc.          | W.<br>or<br>Pk. | 1-3 ft.  | A. 7-9                          |
| <i>b. incanum</i> L. & C.  | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| 7. <i>P. Persicaria</i> L. . . . .   | <i>Spotted Persi-<br/>caria</i> | Wa. pl. . . .            | Ro.<br>or<br>W. | 1-2 ft.  | A. 7-10                         |
| <i>b. elatum</i> G. & G. . . . .   | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| <i>c. prostratum</i> Bréb.   | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| 8. <i>P. petecticale</i><br>( <i>Stokes</i> ) <i>Druce</i><br>( <i>P. Persicaria</i> var. <i>nodosum</i><br><i>Hayward</i> ) | <i>Lge. Pers.</i> . . .         | Wa. pl. . . .            | Ro.<br>or<br>W. | 1-3 ft.  | A. 7-10                         |
| 9. <i>P. Hydropiper</i> L. . . . .   | <i>Water Pepper</i> .           | Moi. pl. . . .           | gr.<br>Pk.      | 1-2 ft.  | A. 7-10                         |
| 10. <i>P. mite</i> Schrank. . . . .  | . . . . .                       | Wet pl. L. . .           | gr.<br>Pk.      | 1-2 ft.  | A. 7-10                         |
| 11. <i>P. minus</i> Huds. . . . .  | <i>Sm. Pers.</i> . . .          | Marshes. R.              | gr.<br>Pk.      | 6-18 in. | A. 7-10                         |
| (Many hybrids occur of species 6 to 11.)   |                                 |                          |                 |          |                                 |
| 12. <i>P. maritimum</i> L. . . . .   | <i>Sea Knotgrass</i> .          | Shingle. V. R.           | W.<br>or<br>Pk. | 3-9 in.  | P. 8-9                          |
| 13. <i>P. Roberti</i> Lois. . . . .  | . . . . .                       | . . . . .                | W.<br>or<br>Pk. | 1-3 ft.  | A. 7-9                          |
| ( <i>P. Raii</i> Bab.)   | . . . . .                       | . . . . .                | . . .           | . . .    | . . .                           |
| 14. <i>P. aviculare</i> L. . . . .   | <i>Knotgrass</i> . . .          | Wa. pl. . . .            | W.<br>or<br>Pk. | 6-36 in. | A. 7-9                          |
| *15. <i>P. sagittatum</i> L. . . . .   | <i>Tear Thumb</i> .             | Str. side. V. R.         | W.              | 6-24 in. | A. 7-10                         |
| *16. <i>P. cuspidatum</i> S. & Z.  | . . . . .                       | Plant. wa. pl.           | gr.<br>W.       | 3-6 ft.  | P. 8-9                          |
| <b>Gen. II. Fagopyrum Hill</b>   |                                 |                          |                 |          |                                 |
| *1. <i>F. sagittatum</i> Gil. . . . .  | <i>Buckwheat</i> . . .          | Wa. pl. . . .            | p.<br>Pk.       | 1-2 ft.  | A. 7-9                          |

## ORD. LXIV.—POLYGONACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Polygonum*.

1. St. round, climbing—Seg. of cal. broadly winged—Ped. very slender, jointed below the middle—Fr. sm., highly polished.
2. St. angl., climbing—Seg. of cal. obtusely keeled—Ped. short, jointed above middle—Fr. dull, striate, granulate.
  - b. Seg. of cal. winged. (Often mistaken for No. 1.)*
3. St. simp., 'spike term., dense—Ls. ov., sub-cord., waved (3-6 in.), glauc. beneath—Petiole winged.
4. St. simp., spike term., lax, bulbiferous below—Ls. (1-2½ in. long, ⅙-⅓ broad) lin. lanc. marg. revolute—Petiole not winged.
  - b. Lr. ls. oval, rootstem much thicker—Shetland, Outer Hebrides.*
5. St. branched, floating—Ls. obl.—Spike dense flowered, sol. term.—Very variable.
  - b. Ls. lanc. with adpressed hairs, sub-sess.*
6. Ls. ov. lanc., not spotted—Spikes term. and lat.—Ped. and cal. gland., scab.; sty. free—Lower stip. not fringed.
  - b. Ls. white, tomentose below.*
7. Ls. lanc. usually spotted—Spike term. and axill.—Ped. and cal. glab.—Sty. half united, stip. fringed—Fr. plano-conv. or trigon.
  - b. Spikes slender.*
  - c. Plant prost. ls. lanc., white below, spikes short, sub-glab.*
8. Ls. broadly lanc. spotted—Ped. and cal. gland.—Ochrea loose, shortly fringed—Spikes long, slender = *P. maculatum*.
9. Spike lax, interrupted, leafy at base, drooping—Ls. lanc. wavy—Stip. glab.—Cal. gland.—Taste hot, biting.
10. Spike fili., interrupted, sub-erect—Ls. lanc. wavy—Stip. hairy—Cal. not gland.—Taste mild.
11. Spike erect, fili., slender, lax—Ls. lin. lanc. flat—Ochrea close pilose, without glands—Cal. not gland.
12. St. woody—Ls. fleshy, glauc. marg. revolute—Ochrea conspic. silv. wh. lanc. with many branched veins—Nut smooth, shining.
13. St. long, straggling, prost.—Ls. flat—Ochrea lanc. with few distant simp. veins—Nut smooth, shining, longer than perianth.
14. St. proc. herb.—Ls. flat—Ochrea short—Fr. opaque, shorter than perianth—Very variable—The vars. include *agrestinum* (Jord.), *brevifolium* Retz., *rotundifolium* Gray, *microspermum* (Jord.), *angustifolium* Gray, *marinum* Gray, *denudatum* (Bor.), *monspeliense* (Thieb.), etc.
- \*15. St. rough with reflexed prickles, ls. obl. ovate-sagit.—Naturalized near Derrynane, Kerry.
- \*16. St. erect, extensively creeping by subt. stolons—Ls. broadly cord. acum. cuspidate—A Japan sp. naturalized in many places.

Gen. II. *Fagopyrum*.

- \*1. St. erect, not prickly—Fl. in cymose panicles—Ls. cord.-sagit. acute.

ORD. LXIV.—POLYGONACEÆ (*continued*).

| Botanical Name.  | Common Name.                       | Soil<br>or<br>Situation. | Colour.   | Grow h.  | Duration<br>and<br>time of<br>flowering. |
|--|------------------------------------|--------------------------|-----------|----------|--|
| <b>Gen. III. Rumex L.</b> .                                    | <i>Dock.</i>                       |                          |           |          |  |
| * .  |                                    |                          |           |          |  |
| 1. <i>R. Hydrolapathum</i><br><i>Huds.</i>                     | <i>Gt. Water D.</i> .              | Riv. sides. .            | rG.       | 3-6 ft.  | P. 7-8                                   |
| <i>b. latifolius</i> Borr. .                                   | . . . .                            | Riv. sides. R.           |           | 2-3 ft.  | . .                                      |
| 2. <i>R. longifolius</i><br><i>DC.</i>                         | . . . .                            | Wet pl. N. Br.           | Gr.       | 2-4 ft.  | P. 7-8                                   |
| × <i>obtusifolius</i> = <i>R.</i><br><i>Arnottii</i> Druce     | . . . .                            | . . . .                  | . .       | . .      | . .                                      |
| 3. <i>R. crispus</i> L. . .                                    | <i>Common D.</i> . .               | W. pl. . . .             | Gr.       | 2-4 ft.  | P. 6-8                                   |
| <i>b. trigranulatus</i><br><i>Syme.</i>                        | . . . .                            | . . . .                  | . .       | . .      | . .                                      |
| <i>c. subcordatus</i> Warr.                                    | . . . .                            | . . . .                  | . .       | . .      | . .                                      |
| <i>d. elongatus</i> (Guss.).                                   | . . . .                            | Tidal rivers .           | . .       | 4-6 ft.  | 7-8                                      |
| × <i>domesticus</i> = <i>R. pro-</i><br><i>pinquus</i> Aresch. | . . . .                            | N. Brit. . .             | . .       | 2-3 ft.  | 7-8                                      |
| × <i>obtusifolius</i> = <i>R.</i><br><i>acutus</i> L.          | . . . .                            | . . . .                  | . .       | 2-3 ft.  | 7-8                                      |
| * 4. <i>R. alpinus</i> L. . .                                  | <i>Monk's Rhubarb</i>              | Wa. pl. . .              | Gr.       | 1-3 ft.  | P. 7-8                                   |
| * * .  |                                    |                          |           |          |  |
| 5. <i>R. obtusifolius</i> L. .                                 | <i>Broad-leaved D.</i>             | Wa. pl. . .              | r.<br>Gr. | 2-3 ft.  | P. 7-9                                   |
| <i>b. agrestis</i> Fr. . .                                     | . . . .                            | . . . .                  | . .       | . .      | . .                                      |
| <i>c. sylvestris</i> (Wallr.)                                  | . . . .                            | Thames side,<br>etc. R.  | . .       | . .      | . .                                      |
| 6. <i>R. sanguineus</i> L. .                                   | <i>Blood D.</i> . . .              | W. pl. R. .              | Gr.       | 1-3 ft.  | P. 7-10                                  |
| <i>b. nemorosus</i> (Schräd.)                                  | <i>Wood D.</i> . . .               | Woods and<br>sh. pl.     | Gr.       | 1-3 ft.  | P. 7-10                                  |
| 7. <i>R. conglomeratus</i><br><i>Murr.</i>                     | <i>Sharp D.</i> . . .              | Wa. pl. . .              | Gr.       | 1-3 ft.  | P. 7-9                                   |
| 8. <i>R. rupestris</i> Le Gall.                                | . . . .                            | S.W. coast. R.           | Gr.       | 1-3 ft.  | P. 6-9                                   |
| 9. <i>R. pulcher</i> L. . .                                    | <i>Fiddle D.</i> . . .             | W. pl. . . .             | Gr.       | 6-18 in. | P. 7-9                                   |
| 10. <i>R. limosus</i> Thuill. .                                | <i>Yellow Marsh D.</i>             | Marshes. R.              | yG.       | 1-2 ft.  | P. 7-8                                   |
| 11. <i>R. maritimus</i> L. . .                                 | <i>Golden D.</i> . . .             | Mar. L. . .              | yG.       | 1-2 ft.  | P. 7-8                                   |
| * * *  |                                    |                          |           |          |  |
| 12. <i>R. Acetosa</i> L. . .                                   | <i>Sorrel.</i> . . . .             | Past. . . .              | Gr.       | 1-2 ft.  | P. 5-7                                   |
| 13. <i>R. Acetosella</i> L. . .                                | <i>Sheep's Sorrel</i> .            | Dry past. .              | o.R.      | 3-15 in. | P. 5-7                                   |
| * 14. <i>R. scutatus</i> L. . .                                | . . . .                            | W. pl. . . .             | Gr.       | 1-2 ft.  | P. 6-7                                   |
| <b>Gen. IV. Oxyria Hill</b>                                    |                                    |                          |           |          |  |
| 1. <i>O. digyna</i> Hill . . .                                 | <i>Mountain Sor-</i><br><i>rel</i> | Wet. rocky<br>pl. Mts.   | rG.       | 4-8 in.  | P. 6-8                                   |
| ( <i>O. reinformis</i> Hook.)                                  |                                    |                          |           |          |  |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Rumex*.\* *Inner sep. ent. or faintly toothed.*

1. Ls. (1-2 ft. long) broadly obl. lanc., tapering into stalk—Whorls crowded, leafless—Sep. ov. triang., ent., all tubercled.  
*b. Rad. ls. cord.—Inner sep. triang., cord. tubercled.*
2. Ls. lanc., lower cord., wavy—Whorls crowded, leafless—Sep. cord., ent., membran., not tubercled.  
 $2 \times 5$ . Ls. obl., cord. at base, undulated on margin—Enlarged sep. cordate, toothed, netted—Scotland.
3. Ls. lan. acu. wavy—Whorls crowded, leafless—Sep. cord. ent. or crenulate—Upper one tubercled.  
*b. Each sep. tubercled—Pan. very dense, branches short, adpressed.*  
*c. Enlarged sep. more or less deltoid—Pan. lax.*  
*d. Ls. very long (8-12 in.), flat; pan. lax—Sometimes 6 feet high by tidal rivers.  $\times$  hybrid of  $2 \times 3$ .*  
 $\times$  hybrid of  $3 \times 5$ . Ls. obl. lanc. acu.—Whorls distinct—Sep. cord. unequal with sm. triang. point; upper one tubercled = *R. pratensis*.
- \*4. Ls. roundish-cord. (6-24 in.), blunt—Sep. cord. ov. entire, not tubercled.  
 \* \* *Inner sep. strongly toothed.*
5. Ls. cord., ov., blunt; upper lanc.—Whorls distant, leafless above—Sep. ov. with a long point; upper tubercled.  
*b. Enlarged pet. sin. dent. below with subu. spread. teeth, one principally tubercled.*  
*c. Enlarged pet. nearly ent., all tubercled—Putney, etc.*
6. Ls. ov. lanc.; lower cord.—Whorls dist. leafless—Sep. obl. obt., ent.; upper tubercled—Ls. veined with red—Petioles blackish.  
*b. Ls. with green veins.*
7. Ls. ov. lanc., not contracted above the base—Whorls distant, leafy—Sep. lin. obl., blunt, ent., each tubercled.
8. Erect, root-ls. obl., bracts few, narrow—Sep. larger, with nearly parallel sides—Tuberc. very large—Pan. tapering—Whorls rather close.
9. St. proc.—Lower ls. fiddle-shaped, upper lanc. acum.—Whorls leafy, dist.—Sep. triang.-ov., veined, deeply toothed; one tubercled.
10. Ls. lin. lanc.—Whorls dist. leafy—Sep. ov. obl., with 2-3 short setaceous teeth on each side and a narrow tuberc.—Fruit 2-3 times larger than 11.
11. Ls. lin. lanc.—Whorls confluent, leafy—Sep. delt., with 2-4 setaceous teeth on each side and a narrow tuberc.—Seed sm.  
 \* \* \* *Flowers diœcious—Leaves acid.*
12. Lr. ls. obl. sagit.—Outer sep. reflexed, inner enlarged, slightly tubercled—Auricles not divergent.
13. Lr. ls. hast.—Outer sep. ascend., inner hardly enlarged, not tubercled—Auricles divergent.
- \*14. Ls. hast. greyish gr.—Sep. not tubercled, sub-rotund. cord. ent. membran.  
 (Many hybrids occur in this genus.)

Gen. IV. *Oxyria*. (*Rheum*.)

1. Ls. rad. renif., long-stalked—Pan. leafless, slender—Pedi. thickened upwards.

## ORD. LXV.—ARISTOLOCHIACEÆ.

| Botanical Name.  | Common Name.          | Soil<br>or<br>Situation. | Colour.    | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-----------------------|--------------------------|------------|-----------|--|
| <b>Gen. I. Asarum L.</b><br>*1. <i>A. europæum L.</i> . .          | <i>Asarabacca</i> . . | Sh. pl. V. R.            | gr.<br>Pu. | 4-6 in.   | P. 5-8                                   |
| <b>Gen. II. Aristolochia L.</b><br>*1. <i>A. Clematitis L.</i> . . | <i>Birthwort</i> . .  | Wa. pl. . R              | Y.         | 12-24 in. | P. 7-8                                   |

## ORD. LXVI.—THYMELEACEÆ.

|  |   |                               |             |                    |                      |
|--|---|-------------------------------|-------------|--------------------|----------------------|
| <b>Gen. I. Daphne L.</b><br>1. <i>D. Laureola L.</i> . .<br>2. <i>D. Mezereum L.</i> . . | <i>Spurge Laurel</i> .<br><i>Mezereum</i> . . | Wo. & hed. L.<br>Woods. V. R. | y G.<br>Pk. | 2-4 ft.<br>1-3 ft. | Shb. 2-4<br>Shb. 3-4 |
|--|---|-------------------------------|-------------|--------------------|----------------------|

## ORD. LXVII.—ELÆAGNACEÆ.

|   |                        |              |    |         |          |
|---|------------------------|--------------|----|---------|----------|
| <b>Gen. I. Hippophae L.</b><br>1. <i>H. Rhamnoides L.</i> . . | <i>Sea Buckthorn</i> . | S. coast. R. | G. | 1-8 ft. | Shb. 5-6 |
|---|------------------------|--------------|----|---------|----------|

## ORD. LXVIII.—LORANTHACEÆ.

|   |                        |                       |    |         |          |
|---|------------------------|-----------------------|----|---------|----------|
| <b>Gen. I. Viscum L.</b><br>1. <i>V. album L.</i> . . . | <i>Mistletoe</i> . . . | Parasitic on<br>trees | G. | 1-3 ft. | Shb. 2-5 |
|---|------------------------|-----------------------|----|---------|----------|

## ORD. LXIX.—SANTALACEÆ.

|   |                               |               |     |          |        |
|---|-------------------------------|---------------|-----|----------|--------|
| <b>Gen. I. Thesium L.</b><br>1. <i>T. humifusum DC.</i> . . | <i>Bastard Toad-<br/>flax</i> | Calc. past. . | gW. | 4-12 in. | P. 5-7 |
|---|-------------------------------|---------------|-----|----------|--------|

ORD. LXV.—ARISTOLOCHIACEÆ.

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CHARACTERISTICS OF SPECIES AND VARIETIES.

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**Gen. I. Asarum.**

- \*1. St. creeping—Ls. reni. shining, obt., in pairs; in the axils of which is a sol. drooping gr. purplish campanulate fl.

**Gen. II. Aristolochia.**

- \*1. St. erect., simp.—Ls. cord. stalked glab.—Fl. 4-8 in cluster on sh. ped. sub-erect.
- 

ORD. LXVI.—THYMELEACEÆ.

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**Gen. I. Daphne.**

1. Ls. evergreen—Fl. yell. gr. in axill. few flowered rac.—Fr. ov. black.  
2. Ls. decid.—Fl. lat. sess. pink in threes, silky—Fr. ov. red.
- 

ORD. LXVII.—ELÆAGNACEÆ.

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**Gen. I. Hippophae.**

1. Thorny—Ls. lin. lanc. silvery—Fl. sm. appearing with young ls.—Berries glob. orange yell.
- 

ORD. LXVIII.—LORANTHACEÆ.

---

**Gen. I. Viscum.**

1. St. much branched—Ls. obov. lanc.—Fl. in axill. clust.—Berries glob. white.
- 

ORD. LXIX.—SANTALACEÆ.

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**Gen. I. Thesium.**

1. Ls. lin. lanc. one nerved, yellowish gr.—Fl. in leafy paniced rac.—Stem diffuse—Ped. scab.—Semi-parasitic on other plants.
-



## ORD. LXX.—EUPHORBIACEÆ.

| Botanical Name.                         | Common Name.                              | Soil<br>or<br>Situation.           | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---|------------------------------------|---------|-----------|--|
| <b>Gen. I. Euphorbia L.</b>             |   |                                    |         |           |  |
| 1. <i>E. hiberna</i> L. . . .           | <i>Spurge.</i><br><i>Irish S.</i> . . . . | Sh. pl. L. .                       | gY.     | 1-2 ft.   | P. 5-7                                   |
| *2. <i>E. dulcis</i> L. . . .           | . . . .                                   | Plantat. R.                        | gY.     | 9-18 in.  | P. 5-6                                   |
| *3. <i>E. Coralloides</i> L. . .        | . . . .                                   | Plantat. R                         | gY.     | 1-3 ft.   | B. 6-7                                   |
| 4. <i>E. pilosa</i> L. . . .            | <i>Hairy S.</i> . . . .                   | Sh. pl. V.R.                       | gY.     | 2-4 ft.   | P. 5-6                                   |
| 5. <i>E. platyphyllos</i> L. .          | <i>Warted S.</i> . . .                    | Cornfie. S.<br>or E. R. .          | gY.     | 6-30 in.  | A. 7-10                                  |
| 6. <i>E. stricta</i> L. . . .           | . . . .                                   | Calc. wo. R.<br>Monm.,<br>Gloster. | gY.     | 12-36 in. | A. 7-9                                   |
| 7. <i>E. Helioscopia</i> L. .           | <i>Sun S.</i> . . . .                     | Cult. gr. . .                      | gY.     | 6-18 in.  | A. 6-10                                  |
| 8. <i>E. Amygdaloides</i> L.            | <i>Wood S.</i> . . . .                    | Woods and<br>sh. pl.               | Y.      | 6-30 in.  | P. 3-5                                   |
| 9. <i>E. Esula</i> L. . . .             | <i>Leafy S.</i> . . . .                   | Str. sides . .                     | gY.     | 1-3 ft.   | P. 6-8                                   |
| <i>b. Pseudo-cyparissias</i><br>(Jord.) | . . . .                                   | . . . .                            | . .     | . .       | . .                                      |
| <i>c. lutescens</i> Huth. .             | . . . .                                   | . . . .                            | . .     | . .       | . .                                      |
| 10. <i>E. Cyparissias</i> L. .          | <i>Cypress S.</i> . . .                   | Grassy pl.<br>V. R.                | Y.      | 9-15 in.  | P. 6-7                                   |
| 11. <i>E. Paralias</i> L. . .           | <i>Sea S.</i> . . . .                     | Sea sands .                        | Y.      | 9-18 in.  | P. 7-10                                  |
| 12. <i>E. portlandica</i> L. .          | <i>Portland S.</i> . .                    | Sea sands .                        | Y.      | 6-18 in.  | P. 5-9                                   |
| 13. <i>E. Peplus</i> L. . . .           | <i>Petty S.</i> . . . .                   | Cult. gr. . .                      | Y.      | 6-12 in.  | A. 7-11                                  |
| 14. <i>E. exigua</i> L. . . .           | <i>Dwarf S.</i> . . . .                   | Cult. gr. . .                      | Y.      | 4-9 in.   | A. 7-10                                  |
| <i>b. retusa</i> DC. . . .              | . . . .                                   | . . . .                            | . .     | . .       | . .                                      |
| 15. <i>E. Lathyrus</i> L. . .           | <i>Caper S.</i> . . . .                   | Woods and<br>w. pl.                | Y.      | 1-4 ft.   | P. 6-7                                   |
| 16. <i>E. Peplis</i> L. . . .           | <i>Purple S.</i> . . . .                  | Shingle V. R.                      | Y.      | 2-10 in.  | A. 7-9                                   |
| <b>Gen. II. Buxus L.</b>                |   |                                    |         |           |  |
| 1. <i>B. sempervirens</i> L. .          | <i>Box</i> . . . .                        | Calc. hills and<br>plantat.        | gW.     | 2-15 ft.  | Shb. 4-6                                 |
| <b>Gen. III. Mercurialis L.</b>         |   |                                    |         |           |  |
| 1. <i>M. perennis</i> L. . .            | <i>Herb Mercury</i> .                     | Woods . .                          | Gr.     | 6-20 in.  | P. 3-5                                   |
| <i>b. ovata</i> Steud. . . .            | . . . .                                   | . . . .                            | . .     | . .       | . .                                      |
| 2. <i>M. annua</i> L. . . .             | <i>Annual M.</i> . . .                    | Cult. gr. . .                      | Gr.     | 6-18 in.  | A. 7-11                                  |
| <i>b. ambigua</i> (L.) . . .            | . . . .                                   | . . . .                            | . .     | . .       | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Euphorbia.**

1. Hairy—Ls. ellip. lanc. ent.—Caps. warted, glab.—Seeds smooth.
- \*2. Erect—Ls. long-obov. narrowed into the base—Partial bract triang. ov. with trunc. base—Invol. glands purple—Caps. with a few prom. tuberc., pubesc. when young.
- \*3. St. naked below—Ls. lanc. minutely serr. woolly ; bract ov.-obl.—Caps. nearly smooth, woolly.
4. Pubesc.—Ls. ellip. lanc. obt. finely serr.—Bract all ellip., glab.—Caps. warted hairy—Near Bath.
5. Ls. obov. lanc., finely serr.—Bract cord.—Caps. glab. with sm. warts—Seeds smooth, olive-br.
6. Ls. obl. lanc.—Caps. with prominent conical warts—Seeds red-br.
7. Ls. obov. serr. upwards, sub-glauc.—Bract ob. cord.—Caps. glab.—Seed netted—Invol. gland. transversely oval.
8. Hairy—Ls. obov. lanc. ent. alt.—Invol. gland triang. lunate, with 2 horns—Bract connate rounded—Caps. glab. minutely dotted—Seeds smooth, grey.
9. Rootstock cr.—Ls. long obl. lanc. dentic.—Bract distinct cord., mucro.—Caps. scab.—Seeds smooth—Stem with a few axill. leafy flowerless branches.  
*b. Stem ls. narr. lin.*  
*c. Bracts bright yellow.*
10. Ls. lin. ent. glauc.—Bract obt.—Caps. gran.—Seeds smooth, glab. pale—Rootstock creeping, stoloniferous—Often a garden escape—Foliage turning crimson.
11. Ls. pale gr., ellip. obl. lanc. coriac. glauc. imbric.—Bract broadly cord.—Caps. leathery, wrinkled—Seeds ov., minutely dotted, whitish.
12. Ls. obov. lanc. obt. glauc.—Bract triang. cord.—Caps. slightly rough—Seeds brown with shallow pits, and large caruncle.
13. Ls. broadly ov. stalked—Bract ov.—Caps. smooth, small—Seeds deeply pitted and keeled.
14. Ls. lin. ac., broadest above or below the midd.—Bract cord.—Caps. with rough angles—Seeds pale, deeply pitted.  
*b. Ls. retuse.*
15. Stem stout—Ls. lin. obl. opp. decussate, upper cord. glab. glauc.—Caps. smooth—Seeds ridged and wrinkled.
16. Annual—Prost. glauc. fleshy, purplish—Ls. stipulate, opposite, obl. ent.—Stem dichotomously branched—Fl. axill. sol.—Very rare on bare shingle of S. E. and Ch. Isles.

**Gen. II. Buxus.**

1. Ls. obl. shining—Flowers crowded, sessile—Boxhill, Dunstable Downs, etc.

**Gen. III. Mercurialis.**

1. St. simp.—Ls. obl.-lanc. hairy—Fert. fl. stalked.  
*b. Ls. nearly sess. ovate.*
2. St. branched—Ls. ov. glab.—Fert. fl. sess.  
*b. Ls. lanc., fl. whorls male and female intermixed.*

## ORD. LXXI.—ULMACEÆ.

| Botanical Name.   | Common Name.          | Soil<br>or<br>Situation. | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------|--------------------------|---------|-----------|--|
| <b>Gen. I. Ulmus L.</b>   | <i>Elm</i>            |                          |         |           |  |
| 1. <i>U. scabra</i> Mill. . .                                       | <i>Wych Elm</i> . .   | Glens, etc. . .          | . .     | 60-120ft. | T. 1-5                                   |
| 2. <i>U. glabra</i> Mill. . .                                       | . . . .               | Hedges . .               | . .     | 60-120ft. | T. 1-3                                   |
| <i>b. cornubiense</i> (Loud)  | <i>Cornish E.</i> . . | . . . .                  | . .     | . .       | . .                                      |
| 3. <i>U. sativa</i> Mill. . .<br>( <i>U. campestris</i> last edit.) | <i>Elm</i> . . . .    | Hedges, etc.             | . .     | 60-120ft. | T. 2-3                                   |

## ORD. LXXII.—URTICACEÆ.

|  |                                  |                        |     |                  |        |
|--|----------------------------------|------------------------|-----|------------------|--------|
| <b>Gen. I. Humulus L.</b>  |                                  |                        |     |                  |        |
| 1. <i>H. Lupulus</i> L. . .  | <i>Hop</i> . . . .               | Hedges . .             | gY. | Cli.<br>4-12 ft. | P. 7-9 |
| <b>Gen. II. Cannabis L.</b>  |                                  |                        |     |                  |        |
| *1. <i>C. sativa</i> L. . . .  | <i>Hemp</i> . . . .              | Wa. pl. . .            | Gr. | 1-3 ft.          | A. 7-9 |
| <b>Gen. III. Urtica L.</b>   | <i>Nettle</i>                    |                        |     |                  |        |
| 1. <i>U. dioica</i> L. . . .   | <i>Stinging N.</i> . .           | W. pl. . . .           | Gr. | 1-6 ft.          | P. 6-9 |
| <i>b. horrida</i> Rouy   | . . . .                          | Shingle, Devon         | . . | 1-2 ft.          | . .    |
| <i>c. microphylla</i><br>Hausm.  | . . . .                          | . . . .                | . . | . .              | . .    |
| <i>d. angustifolia</i> W. & G.   | . . . .                          | . . . .                | . . | . .              | . .    |
| *2. <i>U. pilulifera</i> L. . .  | <i>Roman N.</i> . .              | W. pl. V. R.           | Gr. | 1-3 ft.          | A. 6-8 |
| <i>b. Dodartii</i> (L.) . .  | . . . .                          | . . . .                | . . | . .              | . .    |
| 3. <i>U. urens</i> L. . . .  | <i>Small N.</i> . .              | W. pl. . . .           | Gr. | 9-24 in.         | A. 6-9 |
| <b>Gen. IV. Parietaria L.</b>  |                                  |                        |     |                  |        |
| 1. <i>P. ramiflora</i> Moench.<br>( <i>P. judaica</i> = <i>P. officinalis</i><br>last edit.) | <i>Pellitory of the<br/>Wall</i> | Walls and<br>rocky pl. | Gr. | 6-20 in.         | P. 6-9 |
| <i>b. fallax</i> (Gr. & Godr.)   | . . . .                          | . . . .                | . . | . .              | . .    |

## ORD. LXXIII.—MYRICACEÆ.

|                            |                       |              |     |         |          |
|----------------------------|-----------------------|--------------|-----|---------|----------|
| <b>Gen. I. Myrica L.</b>   |                       |              |     |         |          |
| 1. <i>M. Gale</i> L. . . . | <i>Sweet Gale</i> . . | Bogs . . . . | . . | 2-3 ft. | Shb. 6-7 |



## ORD. LXXI.—ULMACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Ulmus.**

1. Seed in cent. of sub-orb., or obl. samara—Upper surface of ls. very asperous.—  
Ls. 3 in. diam.—No suckers = *U. montana* Stokes.
2. Upper surface of ls. smooth and shining above, glab. beneath except in axil of  
veins—With suckers—Petioles glab. when mature = *U. nitens* Moench.  
*b. Ls. sm.—Branches strict—W. of Engl. = U. stricta* Lindl.
3. Seed above cent. of obov. samara—Upper surf. of ls. scabrid above, pubesc.  
below.

(There are many hybrids and varieties of the Elms.)

## ORD. LXXII.—URTICACEÆ.

**Gen. I. Humulus.**

1. St. scabrid climbing—Ls. opp. 3-5 lobed, rough—Bract of fr. much enlarged,  
scarious.

**Gen. II. Cannabis.**

- \*1. Pl. diœcious—Ls. opp. stalked, digitate. scab. glandular.

**Gen. III. Urtica.** *Stinging Nettles.*

1. Ls. ov. cord.—Spikes branched, longer than petiole—Diœcious.  
*b. Strongly hispidly pubescent—Very venomous.*  
*c. Ls. small.*  
*d. Ls. narrow, often long petioled, hardly cordate at base.*
- \*2. Ls. ov. coarsely toothed—Fert. fl. in glob. heads—Very venomous.  
*b. Ls. ent.—Very rare.*
3. Ls. ellip. glab.—Spikes simp. shorter than peti.—Monœcious, usually.

**Gen. IV. Parietaria.**

1. Ls. ov. lanc., 3-nerved—Fl. in axill. clusters—St. prost. branched.

*b. St. erect, simp.*

## ORD. LXXIII.—MYRICACEÆ.

**Gen. I. Myrica.**

1. Ls. anc. serr., broader upward, fragrant—Catk. sess., erect.

## ORD. LXXIV.—AMENTACEÆ.

| Botanical Name.   | Common Name.              | Soil<br>or<br>Situation.         | Colour. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---------------------------|----------------------------------|---------|-----------|--|
| <b>Gen. I. Betula L.</b>  | <i>Birch.</i>             |                                  |         |           |  |
| 1. <i>B. alba L.</i> . . . .  | <i>Birch</i> . . . .      | Woods . . . .                    | . . . . | 20-70 ft. | T. 3-4                                   |
| 2. <i>B. pubescens Ehrh.</i><br>( <i>B. glutinosa Fr.</i> )<br>× <i>nana</i> = <i>B. inter-</i><br><i>media Thom.</i> | . . . .                   | . . . .                          | . . . . | 6-20 ft.  | T. 5-6                                   |
| 3. <i>B. nana L.</i> . . . .  | <i>Dwarf B.</i> . . . .   | Sc. Bogs. R. . . .               | . . . . | 1-2 ft.   | Shb. 5-6                                 |
| × <i>tomentosa</i> . . . .  | . . . .                   | . . . .                          | . . . . | . . . .   | . . . .                                  |
| <b>Gen. II. Alnus Hill.</b>   |                           |                                  |         |           |  |
| 1. <i>A. rotundifolia Mill.</i><br>( <i>A. glutinosa</i> )<br><i>b. laciniata (Ehrh.)</i>                             | <i>Alder</i> . . . .      | Moi. pl., str.<br>sides . . . .  | . . . . | 20-60 ft. | T. 3-4                                   |
|   | . . . .                   | . . . .                          | . . . . | . . . .   | . . . .                                  |
| <b>Gen. III. Carpinus L.</b>  |                           |                                  |         |           |  |
| 1. <i>C. Betulus L.</i> . . . .   | <i>Hornbeam</i> . . . .   | Woods in M.<br>S. of E. L. . . . | . . . . | 20-60 ft. | T. 5-6                                   |
| <b>Gen. IV. Corylus L.</b>  |                           |                                  |         |           |  |
| 1. <i>C. Avellana L.</i> . . . .  | <i>Hazel</i> . . . .      | Woods . . . .                    | . . . . | 6-20 ft.  | T. 2-5                                   |
| <b>Gen. V. Quercus L.</b>   |                           |                                  |         |           |  |
| 1. <i>Q. Robur L.</i> . . . .   | <i>Oak</i> . . . .        | Woods . . . .                    | . . . . | 60-100ft. | T. 4-5                                   |
| 2. <i>Q. sessilis Ehrh.</i> . . . .   | <i>Sessile O.</i> . . . . | Woods . . . .                    | . . . . | 60-100ft. | T. 4-5                                   |
| × <i>Robur</i> = <i>Q. rosa-</i><br><i>cea Moench.</i>  | . . . .                   | . . . .                          | . . . . | . . . .   | . . . .                                  |
| <b>Gen. VI. Castanea Hill</b>   |                           |                                  |         |           |  |
| *1. <i>C. sativa Mill</i> . . . .   | <i>Sweet Chestnut</i>     | Plantat. . . .                   | . . . . | 60-90 ft. | T. 4-5                                   |
| <b>Gen. VII. Fagus L.</b>   |                           |                                  |         |           |  |
| 1. <i>F. sylvatica L.</i> . . . .   | <i>Beech</i> . . . .      | Woods . . . .                    | . . . . | 60-100ft. | T. 4-5                                   |

## ORD. LXXV.—SALICACEÆ.

|                                    |                         |                            |         |           |         |
|------------------------------------|-------------------------|----------------------------|---------|-----------|---------|
| <b>Gen. I. Salix L.</b>            | <i>Willow.</i>          |                            |         |           |         |
| 1. <i>S. pentandra L.</i> . . . .  | <i>Bay-leaved W.</i>    | Riv. bks. nr.<br>Br. . . . | . . . . | 8-20 ft.  | T. 5-6  |
| 2. <i>S. fragilis L.</i> . . . .   | <i>Crack W.</i> . . . . | Riv. bks. . . .            | . . . . | 60-80 ft. | T. 4-5  |
| <i>b. britannica F.B.W.</i>        | . . . .                 | . . . .                    | . . . . | . . . .   | . . . . |
| <i>c. decipiens Hoffm.</i> . . . . | . . . .                 | . . . .                    | . . . . | . . . .   | . . . . |
| × <i>pentandra</i> . . . .         | . . . .                 | . . . .                    | . . . . | . . . .   | . . . . |

## ORD. LXXIV.—AMENTACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Betula*.

1. Tree—Ls. (1-3 in.) rhomb. triang., doubly serr., cun. at base—Vns. nly. straight—Fr. broadly winged, lat. lobes spread.—Young shoots with resin. tuberc.
- 2 Ls. rhomb. ovate, rounded at base, veins curved—Lat. lobes of fr. erect—Young shoots pubesc.  
 $\times$  *hybrid of 1 and 3*—Ls. broadly rhomb. ac. dent.—Catk. erect with 3-lobed scales.
3. Shb.—Ls. ( $\frac{1}{4}$ - $\frac{1}{2}$  in.) orb.-cren. shortly stalked—Fr. narrowly winged.  
 $\times$  *hyb. of 2  $\times$  3 = B. alpestris Fr.*

Gen. II. *Alnus*.

1. Ls. (2-4 in.) orb.-cun., green on both sides, fem. spikes racemose.  
*b. Ls. deeply cut—Rare.*

Gen. III. *Carpinus*.

1. Ls. ellip. ov. (2-3 in.), doubly serr., hairy beneath—Fem. catk. (2-4 in.) pend. in fr. with bracteole ( $1-1\frac{1}{2}$  in.).

Gen. IV. *Corylus*.

1. Ls. (2-4 in.) orbic. cord., doubly serr. cuspidate.

Gen. V. *Quercus*.

1. Ls. with no multiple hairs on under surface—Ls. bi-auricled at base—Ped. usually above 1 in. long.
2. Ls. with multiple hairs on under side, not bi-auricled—Ped. short or absent.  
 $\times$  *hybrid of 1  $\times$  2*—Ls. bi-auricled at base—Multiple hairs (minute) on under side of ls.—Petioles and pedunc. usually long.

Gen. VI. *Castanea*.

- \*1. Ls. obl. lanc. acum. mucro. serr. glab.

Gen. VII. *Fagus*.

1. Ls. (2-3 in.) ov. glab. ciliate on marg.

## ORD. LXXV.—SALICACEÆ.

Gen. I. *Salix*.

1. Ls. ellip.-lanc., gland., shining, pale beneath—Catk. ov. atten. stalked, with the ls.; fragrant, scales obl. decid.—Stam. 5—Stig. bifid. ov. obl. straight.
2. Ls. lanc. pointed, serr., glab.—Catk. obov., lanc. glab. stalked, with the ls.—Scales decid.—Sta. usually 2, much longer than scales—Stig. bifid.  
*b. Male catk. lax fld.; sta. scarcely longer than scales—Ovary narrower than type.*  
*c. Ls. smaller—Sty. longer—Twigs polished—Catkins denser.*  
 $\times$  *hyb. of 1  $\times$  2. S. cuspidata Sch.—Stip.  $\frac{1}{4}$  cord. oblique—Ls. obl. lanc. acum.—Top of petiole gland.*



ORD. LXXV.—SALICACEÆ (*continued*).

| Botanical Name.                             | Common Name.             | Soil<br>or<br>Situation. | Colour.   | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|--------------------------|-----------|-----------|--|
| <b>Gen. I. Salix L. (<i>contd.</i>)</b>     |                          |                          |           |           |  |
| 3. <i>S. alba</i> L. . . . .                | <i>White W.</i> . . . .  | Riv. bks. . . . .        | . . . . . | 20-80 ft. | T. 4-5                                   |
| <i>b. vitellina</i> (L.) . . . .            | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| <i>c. caerulea</i> (Sm.) . . . .            | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| × <i>fragilis</i> = <i>S. viridis</i> Fr.   | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| 4. <i>S. triandra</i> L. . . . .            | <i>Almond-leaved W.</i>  | Riv. bks. . . . .        | . . . . . | 20-30 ft. | T. 4-5                                   |
| <i>b. Hoffmaniana</i> (Sm.) . . . .         | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| 5. <i>S. purpurea</i> L. . . . .            | <i>Purple W.</i> . . . . | Riv. bks. . . . .        | . . . . . | 5-20 ft.  | Sh. 3-4                                  |
| <i>b. Woolgariana</i> (Borr.) . . . .       | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| <i>c. Lambertiana</i> (Sm.) . . . .         | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| × <i>repens</i> = <i>S. Doniana</i> Sm.     | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |
| × <i>viminialis</i> = <i>S. rubra</i> Huds. | . . . . .                | . . . . .                | . . . . . | . . . . . | . . . . .                                |

(Several other hybrids, *i.e.* 5 × 10, 5 × 11, 5 × 14, are reported.)

|                                    |                          |                       |           |           |           |
|------------------------------------|--------------------------|-----------------------|-----------|-----------|-----------|
| *6. <i>S. daphnoides</i> Vill.     | <i>Violet W.</i> . . . . | Riv. bks. . . . .     | . . . . . | 10-12 ft. | T. 4-5    |
| 7. <i>S. viminalis</i> L. . . . .  | <i>Osier</i> . . . . .   | Dp. pl. . . . .       | . . . . . | 20-30 ft. | Sh. 4-6   |
| <i>b. stipularis</i> (Sm.) . . . . | . . . . .                | . . . . .             | . . . . . | . . . . . | . . . . . |
| <i>c. acuminata</i> (Sm.) . . . .  | . . . . .                | Hed. R., etc. . . . . | . . . . . | . . . . . | . . . . . |

(The hybrids 7 × 10 and 7 × 12 have been recorded.)

|  |                            |                      |           |           |           |
|--|----------------------------|----------------------|-----------|-----------|-----------|
| 8. <i>S. Smithiana</i> Willd.          | <i>Smith's W.</i> . . . .  | Hedges, etc. . . . . | . . . . . | 10-20 ft. | Sh. 4-6   |
| <i>b. rugosa</i> (Leefe) . . . .       | . . . . .                  | . . . . .            | . . . . . | . . . . . | . . . . . |
| <i>c. ferruginea</i> (Anders.) . . . . | . . . . .                  | . . . . .            | . . . . . | . . . . . | . . . . . |
| 9. <i>S. Caprea</i> L. . . . .         | <i>Goat Sallow</i> . . . . | Woods . . . . .      | . . . . . | 10-30 ft. | T. 4-5    |

(Many hybrids, *i.e.* 9 × 11, 9 × 12, 9 × 13, 9 × 14, 9 × 17, and 9 × 18, have been recorded.)

|                                 |                            |                 |           |         |         |
|---------------------------------|----------------------------|-----------------|-----------|---------|---------|
| 10. <i>S. aurita</i> L. . . . . | <i>Auricled S.</i> . . . . | Woods . . . . . | . . . . . | 2-8 ft. | Sh. 4-5 |
|---------------------------------|----------------------------|-----------------|-----------|---------|---------|

(Many hybrids with other species occur, 10 × 9, 10 × 11, 10 × 12, 10 × 13, 10 × 14, 10 × 17, 10 × 18, and 10 × 19, with some ternary hybrids, are also recorded.)

|                                   |                          |                 |           |           |           |
|-----------------------------------|--------------------------|-----------------|-----------|-----------|-----------|
| 11. <i>S. cinerea</i> L. . . . .  | <i>Grey S.</i> . . . . . | Woods . . . . . | . . . . . | 10-20 ft. | T. 4-5    |
| <i>b. aquatica</i> (Sm.) . . . .  | . . . . .                | . . . . .       | . . . . . | . . . . . | . . . . . |
| <i>c. oleifolia</i> (Sm.) . . . . | . . . . .                | . . . . .       | . . . . . | . . . . . | . . . . . |

(Hybrids of 11 × 12, 11 × 13, 11 × 14, 11 × 17, are recorded.)

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Salix** (*continued*).

3. Ls. lanc. acum., silky above and below—Catk. slender, lax, erect sess., with the ls.—Scales lin. decid.—Sty. short.—Sta. usually 2.
  - b. Old ls. glab. above—Twigs yellow or reddish.*
  - c. Old ls. glab., glauc. beneath—Twigs olive.*
  - × *hyb. of 2 × 3—Ls. lanc. dark, shining—Stip. ½ cord.—Sty. very short—Branches smooth, round, brown, brittle.*
4. Ls. obl. lanc. glab.—Catk. obl. ov., stalked, with the ls.; scales persist. glab.—Sta. 3—Stig. sess.
  - b. Ls. somewhat rounded below, gr. beneath, stip. larger, scales shaggy towards the base.*
5. Ls. lin. lanc., thin gland. serr. glauc.—Catk. ov., sess. (before the ls.), very downy—Scales sm. purple—Stig. ov.—Sty. very short—Anth. 1, purp., stip. o.
  - b. Erect, twig yell. gray, ls. cuneate-lanc. glauc. beneath, stig. blunt.*
  - c. Erect, twig purplish glauc.—Ls. obl.-lin. lanc.—Stig. ov. emarginate.*
  - × *Very rare hybrid 5 × 12—Scotland—Anth. yell.—Caps. stalked.*
  - × *hyb. 5 × 7—Ls. silky beneath, fil. connate at base only—Anth. 2.*
- \*6. Ls. lin. lanc. acum., shining above, glauc. beneath—Catk. stout sess.—Scales black ac. very villous—Caps. glab.—Twigs violet.
7. Ls. (4-10 in. long) lin. lanc., silky beneath—Catk. lanc. long (before ls.) sess.—Scales obt. brown—Sty. lin. ent.—Caps. tomentose.
  - b. Ls. broader, stip. large—Caps. shortly stalked—Twigs reddish-br.*
  - c. Ls. lanc. obl. glauc., ashy and downy beneath, buds downy.*
8. Ls. broad lanc., satiny beneath—Caps. stalked—Stip. sm. narrow ½ lunate.
  - b. Ls. greenish white beneath—Stip. ½ cord. acute.*
  - c. Ls. narrower, br. white beneath—Stip. ½ ov. or reni.*
9. Ls. ov. ellip. acu., deep gr., cottony below, retic. above and below—Catk. thick, blunt, sess. (before the ls.)—Scale persist.—Sty. short—Buds glab.
10. Ls. obov., cren., wrinkled, pubesc. beneath—Catk. lanc., short, sess. (before ls.)—Scales persist.—Sty. short—Twigs reddish—Stip. conspic.—Buds glab.
11. Buds tomentose—Ls. ellip. obl., pubesc. above, not tomentose but often glauc. below—Buds downy.
  - b. Ls. more obov., glauc. below, hairs beneath white—Stip. large.*
  - c. Ls. narr. rigid, glauc., hairs beneath red br.—Stip. small.*

ORD. LXXV.—SALICACEÆ (*continued*).

| Botanical Name.                  | Common Name.                | Soil<br>or<br>Situation. | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|----------------------------------|-----------------------------|--------------------------|---------|---------|--|
| <b>Gen. I. Salix L. (contd.)</b> |                             |                          |         |         |  |
| 12. <i>S. repens</i> L. . . .    | <i>Creeping or Dwarf W.</i> | Heaths . . . .           | . . . . | 1-3 ft. | Sh. 4-5                                  |

(Many varieties have been described, *i.e.* *adscendens* (Sm.), *parvifolia* (Sm.), *incubacea* (L.), *argentea* (Sm.), *fusca* (Sm.), *prostrata* (Sm.).)

|                                 |                       |                     |         |          |         |
|---------------------------------|-----------------------|---------------------|---------|----------|---------|
| 13. <i>S. nigricans</i> Sm. . . | <i>Dark-leaved S.</i> | Riv. bks. in N. Br. | . . . . | 6-10 ft. | Sh. 4-5 |
|---------------------------------|-----------------------|---------------------|---------|----------|---------|

(Vars. *cotinifolia* (Sm.), *Forsteriana* (Sm.), *rupestris* (Don.), *Andersoniana* (Sm.), *damascena* (Forbes), *petræa* (And.), *hirta* (Sm.), and the hybrids 13 × 5, 13 × 12, 13 × 14, 13 × ? 19, have been recorded.)

|                                   |         |                      |         |          |         |
|-----------------------------------|---------|----------------------|---------|----------|---------|
| 14. <i>S. phylicifolia</i> L. . . | . . . . | Str. sides, N. Brit. | . . . . | 6-10 ft. | Sh. 4-5 |
|-----------------------------------|---------|----------------------|---------|----------|---------|

(A large number of varieties, and hybrids of 14 × 11, 14 × 12, have been recorded.)

|                                  |         |                   |         |         |         |
|----------------------------------|---------|-------------------|---------|---------|---------|
| 15. <i>S. Arbuscula</i> L. . . . | . . . . | Sc. mts. R. . . . | . . . . | 1-2 ft. | Sh. 6-7 |
|----------------------------------|---------|-------------------|---------|---------|---------|

(Hybrids 15 × 13, 15 × 14, 15 × 17, 15 × 18, 15 × 19 have been recorded.)

|                               |                        |                      |         |         |         |
|-------------------------------|------------------------|----------------------|---------|---------|---------|
| 16. <i>S. lanata</i> L. . . . | <i>Woolly W.</i> . . . | Sc. mts. V. R. . . . | . . . . | 1-3 ft. | Sh. 5-7 |
|-------------------------------|------------------------|----------------------|---------|---------|---------|

(Hybrids 16 × 17, 16 × 19, 16 × 20 have been recorded.)

|                                 |                     |                        |         |         |         |
|---------------------------------|---------------------|------------------------|---------|---------|---------|
| 17. <i>S. lapponum</i> L. . . . | <i>Downy mt. W.</i> | Mt. of N. Br. L. . . . | . . . . | 2-5 ft. | Sh. 6-7 |
|---------------------------------|---------------------|------------------------|---------|---------|---------|

(Hybrids 17 × 12, 17 × 13, 17 × 14, 17 × 18, 17 × 20 have been recorded.)

|                                 |                          |                   |         |         |         |
|---------------------------------|--------------------------|-------------------|---------|---------|---------|
| 18. <i>S. Myrsinites</i> L. . . | <i>Whortle-leaved W.</i> | Sc. mts. R. . . . | . . . . | 1-2 ft. | Sh. 6-7 |
|---------------------------------|--------------------------|-------------------|---------|---------|---------|

|                               |         |         |         |         |         |
|-------------------------------|---------|---------|---------|---------|---------|
| <i>b. procumbens</i> (Forbes) | . . . . | . . . . | . . . . | . . . . | . . . . |
|-------------------------------|---------|---------|---------|---------|---------|

(Hybrids 18 × 13, 18 × 14, 18 × 19 have been recorded.)

|                                 |                       |            |         |         |         |
|---------------------------------|-----------------------|------------|---------|---------|---------|
| 19. <i>S. herbacea</i> L. . . . | <i>Least W.</i> . . . | Mts. . . . | . . . . | 2-6 in. | Sh. 6-7 |
|---------------------------------|-----------------------|------------|---------|---------|---------|

(Hybrids 19 × 12, 19 × 14, 19 × 16, 19 × 17, 19 × 18, 19 × 20 have been recorded.)

|                                   |                        |                   |         |          |         |
|-----------------------------------|------------------------|-------------------|---------|----------|---------|
| 20. <i>S. reticulata</i> L. . . . | <i>Veined W.</i> . . . | Sc. mts. L. . . . | . . . . | 6-24 in. | Sh. 6-7 |
|-----------------------------------|------------------------|-------------------|---------|----------|---------|

(The hybrids *semi-reticulata*, *sejuncta*, and *soluta* have been recorded.)

See also Rev. E. F. Linton on the British Willows.

|  |                                 |                |         |            |        |
|--|---------------------------------|----------------|---------|------------|--------|
| <b>Gen. II. Populus L.</b>                           |                                 |                |         |            |        |
| 1. <i>P. alba</i> L. . . . .                         | <i>Poplar. White P.</i> . . . . | Hedges . . . . | . . . . | 30-90 ft.  | T. 3-4 |
| 2. <i>canescens</i> Sm. . . .                        | <i>Grey P.</i> . . . .          | . . . .        | . . . . | 30-90 ft.  | . . .  |
| 3. <i>P. tremula</i> L. . . .                        | <i>Aspen</i> . . . .            | Woods . . . .  | . . . . | 40-60 ft.  | T. 3-4 |
| <i>b. villosa</i> Lang . . .                         |                                 |                |         |            |        |
| *4. <i>P. nigra</i> L. . . . .                       | <i>Italian Black P.</i>         | Hedges . . . . | . . . . | 60-90 ft.  | T. 4-5 |
| <i>b. italica</i> (Moench.)                          | <i>Lombardy P.</i> . .          | . . . .        | . . . . | 60-120 ft. | . . .  |
| *5 <i>P. deltoides</i> Marsh.<br>( <i>serotina</i> ) | <i>Canad. Blk. P.</i>           | Hedges . . . . | . . . . | 60-90 ft.  | T. 4-5 |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Salix** (*continued*)

12. Very variable—Stem proc. or asc., creeping underground—Ls. sm. obl. lanc., marg. recurved, shining above, silky beneath—Catk. cyl. obl., erect, short, sess. (before ls.)—Scales spath., silky—Sty. short.
13. Ls. ov. ellip., turning black in drying—Catk. ov. cyl., erect sess.—Scales lin. obl., pilose—Sty. long—Stip. with basal gland.
14. Ls. ellip. lanc., glab. shining, glauc. beneath, not wrinkled—Catk. sess.—Scales lin. obl., acu.—Sty. distinct.
15. Ls. ov. lanc. glab. shining, serrulate, glauc. beneath—Catk. lat. sess. on leafy ped.—Scales obt. hairy—Sty. long.
16. Ls. broadly ov. coriac. ent. shaggy—Catk. term. sess. stout, dense (with the ls.)—Scales ob. with long pale long yell. hairs—Sty. long.—Caps. about 3 lines long.
17. Ls. ellip. lanc., silky above, cottony beneath—Catk. sess. (with ls.) scales acu. with long white hairs—Sty. very long—Caps. about 2 lines long.
18. Ls. lanc. rigid, with prom. veins—Catk. term. on leafy ped. (with ls.)—Scales spath.—Sty. long.  
*b. Ls. oval bright gr. on both sides—Catk. long cylind.—Scale nearly black.*
19. St. underground—Ls. orb. obl., strongly veined, not wrinkled, serr. glab. above, gr. below—Catk. on two-leaved ped. (with ls.) often crimson—Scales glab.
20. St. underground—Ls. obl. or orb. obt., strongly veined above, glab. above, glauc. beneath—Catk. (with ls.) on long leafy ped.—Scales obov.  
 “The Revision of the British Willows,” by F. Buchanan White, should be consulted by those wishing to critically study this group.

**Gen. II. Populus.**

1. Ls. roundish cord. sin., cottony beneath—Ls. of suckers lobed—Stig. 2-4 lin. yellow.  
 × *Ls. roundish cord. hoary or glab. beneath—Ls. of suckers angled and toothed.—Stig. pu.*
2. Ls. nearly round, acu. glab. beneath—Catk. dense—Sty. bifid.  
*b. Ls. villose below.*
- \*3. Ls. tri. acum. glab. ben'th, yell'sh.-gr.—Cun. at base—Catk. lax—Sty. 2-lobed at apex—Trunk with rough bosses—Yg. buds viscous—Branches spread. horiz.  
*b. Branches erect pyramidal—Ls. not ciliate on margin.*
- \*4. Ls. glabr., broadly triang. greyish-gr., when yng. reddish bronze—Trunc. at base, few cilia.—Catk. lax.—Trunk smoother—Brnchs. curv. up.—Lf. buds viscous.

## ORD. LXXVI.—EMPETRACEÆ.

| Botanical Name.                     | Common Name.           | Soil<br>or<br>Situation. | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|-------------------------------------|------------------------|--------------------------|---------|----------|--|
| <b>Gen. I. Empetrum</b> <i>L.</i>   |                        |                          |         |          |  |
| 1. <i>E. nigrum</i> <i>L.</i> . . . | <i>Crowberry</i> . . . | Moors . . .              | Pu.     | 6-18 in. | Sh. 5-6                                  |

## ORD. LXXVII.—CERATOPHYLLACEÆ.

|   |                       |           |     |         |        |
|---|-----------------------|-----------|-----|---------|--------|
| <b>Gen. I. Ceratophyllum</b> <i>L.</i>  |                       |           |     |         |        |
| 1. <i>C. demersum</i> <i>L.</i> . . .   | <i>Hornwort</i> . . . | . . . . . | . . | 1-3 ft. | P. 6-7 |
| <i>b. submersum</i> ( <i>L.</i> ) . . . | . . . . .             | . . . . . | . . | . .     | . .    |

## ORD. LXXVIII.—HYDROCHARIDACEÆ.

|  |                             |                 |                  |                 |         |
|--|-----------------------------|-----------------|------------------|-----------------|---------|
| <b>Gen. I. Elodea</b> <i>Michx.</i>    |                             |                 |                  |                 |         |
| *1. <i>E. canadensis</i> <i>Michx.</i> | <i>Canadian Water Thyme</i> | Streams, etc.   | <i>g.</i><br>Pu. | Flo.<br>1-4 ft. | P. 7-10 |
| <b>Gen. II. Hydrocharis</b> <i>L.</i>  |                             |                 |                  |                 |         |
| 1. <i>H. Morsus-ranæ</i> <i>L.</i>     | <i>Frog-bit</i> . . .       | Still water .   | W.               | Flo.            | P. 7-8  |
| <b>Gen. III. Stratiotes</b> <i>L.</i>  |                             |                 |                  |                 |         |
| 1. <i>S. Aloides</i> <i>L.</i> . . .   | <i>Water Soldier</i> .      | Still-water. R. | W.               | Flo.            | P. 7-8  |

## ORD. LXXIX.—ORCHIDACEÆ.

|                                      |                         |                           |             |         |        |
|--------------------------------------|-------------------------|---------------------------|-------------|---------|--------|
| <b>Gen. I. Malaxis</b> <i>Sw.</i>    |                         |                           |             |         |        |
| 1. <i>M. paludosa</i> <i>Sw.</i> .   | <i>Bog Orchis</i> . . . | Bogs. R. . .              | <i>y</i> G. | 1-4 in. | P. 7-9 |
| <b>Gen. II. Liparis</b> <i>Rich.</i> |                         |                           |             |         |        |
| 1. <i>L. Loeselii</i> <i>Rich.</i> . | <i>Fen Orchis</i> . . . | Bogs. V. R.<br>E. of Eng. | <i>y</i> G. | 4-8 in. | P. 6-7 |
| <i>b. ovata</i> <i>Riddels.</i> .    | . . . . .               | Moist sa. dunes           | . .         | 2-4 in. | . .    |

ORD. LXXVI.—EMPETRACEÆ.

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CHARACTERISTICS OF SPECIES AND VARIETIES.

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**Gen. I. Empetrum.**

1. St. proc.—Ls. lin. obl.; margins revolute so as to meet at back—Fl. axill. sm.  
—Berry black, rarely plum coloured = var. *pruinosa*.
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ORD. LXXVII.—CERATOPHYLLACEÆ.

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**Gen. I. Ceratophyllum.**

1. Ls. whorled, remotely serr. dark gr.—Fr. armed with 2 spines—Seg. of cal. notched at top.  
*b. Fr. unarmed—Seg. of cal. ent.*
- 
- 

ORD. LXXVIII.—HYDROCHARIDACEÆ.

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**Gen. I. Elodea.**

- \*1. Ls. ( $\frac{1}{4}$ – $\frac{1}{2}$  in.) lin. or lanc. obt. serrulate, 3–4 in. whorl—St. brittle, rooting at joints.

**Gen. II. Hydrocharis.**

1. Floating—Ls. (1–1 $\frac{1}{2}$  in.) reni., stalked ent.—Fr. ( $\frac{3}{4}$ –1 in.) white, delicate.

**Gen. III. Stratiotes.**

1. Ls. (6–18 in.) sword shaped, spinous serr., rigid, brittle—Fl. (1 $\frac{1}{2}$  in.) white.
- 
- 

ORD. LXXIX.—ORCHIDACEÆ.

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**Gen. I. Malaxis.**

1. Ls. few fringed with cellul. bulbils, that develop new pl., obov. concave—Spike dense—Fl. ( $\frac{1}{4}$  in.)—Lip acute, concave.

**Gen. II. Liparis.**

1. Stem trigonous—Ls. (1–3 in.) obl. lanc. keeled—Spike lax—Fl. ( $\frac{1}{4}$  in.)—Lip cont. obov.  
*b. Ls. broad, ellip. blunt—Plant sm.—Glam., Carmarthen.*



ORD. LXXIX.—ORCHIDACEÆ (*continued*).

| Botanical Name.   | Common Name.                      | Soil<br>or<br>Situation. | Colour.     | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------------------|--------------------------|-------------|----------|--|
| <b>Gen. III. Corallorrhiza</b><br><i>Chat.</i>                                  |                                   |                          |             |          |  |
| 1. <i>C. trifida</i> <i>Chat.</i> . . .<br>( <i>C. innata</i> <i>Br.</i> )      | <i>Coral-root O.</i> . .          | Bogs. R., N.<br>Brit.    | dull<br>Y.  | 6-12 in. | P. 6-7                                   |
| <b>Gen. IV. Neottia</b> <i>Adans.</i>   |                                   |                          |             |          |  |
| 1. <i>N. Nidus-avis</i> <i>Rich.</i>  | <i>Bird's Nest O.</i> . .         | Woods. . . .             | pale<br>Br. | 6-18 in. | P. 6-7                                   |
| <b>Gen. V. Listera</b> <i>Br.</i>   |                                   |                          |             |          |  |
| 1. <i>L. ovata</i> <i>Br.</i> . . .   | <i>Tway-blade.</i> . .            | Woods, etc. .            | y G.        | 6-24 in. | P. 5-7                                   |
| 2. <i>L. cordata</i> <i>Br.</i> . . .   | <i>Sm. T.</i> . . .               | Turfy moors<br>R.        | gr.<br>Br.  | 3-6 in.  | P. 6-8                                   |
| <b>Gen. VI. Spiranthes</b><br><i>Rich.</i>                                      |                                   |                          |             |          |  |
| 1. <i>S. æstivalis</i> <i>Rich.</i> . .   | <i>Summer L.</i> . .              | Bogs. V. R. .            | W.          | 6-18 in. | P. 7-8                                   |
| 2. <i>S. spiralis</i> <i>Koch</i> . . .<br>( <i>S. autumnalis</i> )             | <i>Autumn L.</i> . .              | Turfy pl. . .            | W.          | 4-8 in.  | P. 7-8                                   |
| 3. <i>S. Romanzoffiana</i><br><i>Cham.</i>                                      | <i>Irish L.</i> . . .             | Boggy pl.<br>V. R.       | W.          | 6-10 in. | P. 7-8                                   |
| <b>Gen. VII. Goodyera</b> <i>Br.</i>  |                                   |                          |             |          |  |
| 1. <i>G. repens</i> <i>Br.</i> . . .<br>( <i>Epipactis repens</i> <i>Cr.</i> )  | <i>Creeping G.</i> . .            | Pine woods. L.           | cm.<br>W.   | 4-10 in. | P. 6-8                                   |
| <b>Gen. VIII. Epipogium</b><br><i>Sw.</i>                                       |                                   |                          |             |          |  |
| 1. <i>E. aphyllum</i> <i>Sw.</i> . . . .  | . . . .                           | Sha. woods.<br>V. R.     | p Y.        | 4-8 in.  | P. 7-9                                   |
| <b>Gen. IX. Cephalanthera</b><br><i>Rich.</i>                                   |                                   |                          |             |          |  |
| 1. <i>C. rubra</i> <i>Rich.</i> . . .   | <i>Red Helleborine</i>            | Woods. V. R.             | pu.<br>R.   | 6-12 in. | P. 6-7                                   |
| 2. <i>C. Damasonium</i> <i>Druce</i><br>( <i>C. grandiflora</i> <i>Gray</i> )   | <i>Lge. W. H.</i> . .             | Calc. wo. L.             | W.          | 9-18 in. | P. 5-6                                   |
| 3. <i>C. longifolia</i> <i>Fritsch.</i><br>( <i>C. ensifolia</i> <i>Rich.</i> ) | <i>Narrow-leaved</i><br><i>H.</i> | Hilly woods.             | W.          | 9-24 in. | P. 5-7                                   |
| <b>Gen. X. Helleborine</b><br><i>Hill = Epipactis</i>                           |                                   |                          |             |          |  |
| 1. <i>H. palustris</i> <i>Schrank.</i>  | <i>Marsh H.</i> . . .             | Bogs . . . .             | pk.<br>W.   | 6-18 in. | P. 7-8                                   |
| 2. <i>H. latifolia</i> <i>Druce</i> . .   | <i>Broad-leaved H.</i>            | Woods . . .              | pk W        | 1-3 ft.  | P. 7-9                                   |
| <i>b. atroviridis</i> <i>Druce.</i>   | . . . .                           | Derbysh., etc.           | . . .       | . . .    | . . .                                    |
| <i>c. media</i> <i>Druce</i> . . .  | . . . .                           | Woods . . .              | . . .       | . . .    | . . .                                    |
| 3. <i>H. purpurata</i> <i>Druce</i><br>( <i>E. violacea</i> )                   | . . . .                           | Woods. L. .              | gr.<br>W.   | 1-2 ft.  | P. 8-9                                   |
| 4. <i>H. atropurpurea</i> <i>Druce</i><br>( <i>E. ovalis</i> <i>Bab.</i> )      | . . . .                           | Calc. pl. L. .           | R.          | 6-18 in. | P. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. III. Corallorrhiza**; *a yell.-br. saprophyte*.

1. Root of thick, fleshy, coral-like fibres—St. with 2 or 3 lanc. sheathing pale br. leaves—Fl. in lax spike—Lip obl. white, with a few purp. spots.

**Gen. IV. Neottia**; *a yell.-br. saprophyte*.

1. St. leafless, with br. scales glab.—Spikes dense, cyl.—Lip. lin. obl. with 2 spreading lobes.

**Gen. V. Listera**.

1. St. tall, pubesc. above—Ls. broadly ellip. (3-8 in.), ribbed—Lip bifid, unlobed.
2. St. slend., short, glab.—Ls. cord. ( $\frac{1}{2}$ -1 in.) sess. acute—Lip bifid with 2 lat. lobes.

**Gen. VI. Spiranthes**.

1. Rad. ls. obl. lanc.—Spike lax—St. glab.—Fl. in one rank—Tuber cylind.
2. Rad. ls. in a lat. rosette, ov. acu.—St. upper part. pubesc.—Fl. in one rank—Tuber ovoid.
3. Rad. ls. narr. lanc.—St. stout glab.—Spike dense, 2-3 in. gland. pubesc.—Fl. in 3 ranks—Ireland.

**Gen. VII. Goodyera = Epipactis** *Ludw.*

1. Root creeping—Ls. (1 in.) stalked, ov. netted, pubesc. beneath—St. pubesc. slend.—Sep. and lip. ov. lanc.—Pinewoods of Scot., N. E., and Norfolk.

**Gen. VIII. Epipogium**; *a yell.-br. saprophyte*.

1. Leafless—Fl. yell., mid-lobe paler with red glands—Spur obt.

**Gen. IX. Cephalanthera**.

1. Fl. open, rosy purp., lip pale—Ls. lanc.—St. often tinged with red, ovary downy.
2. Fl. cream-white—Ls. ov. obl.—Ov. nearly glab., shorter than bract.
3. Fl. pure white—Ls. ov. or lanc.—Ov. glab., longer than minute bracts.

**Gen. X. Helleborine = Epipactis** *Cr. p.p.* (See Appendix.)

1. Ls. lanc.—Bract shorter than fl.—Lower lobe of lip obt.—Bogs and marshes.
2. Ls. orbic. ov. (4-5 in. by 2-3 in., many-veined), bracts mostly longer than fl.  
*b. Label with two side hunches, and one median linear hunch.*  
*c. Ls. ov. obl.—Lr. lobe of lip triang.-cord., as long as lanc. sep.*
3. Pl. growing in clusters; st. and ls. suffused with viol.-purp.—Fl. whitish-gr.—Bracts much longer than the obl. pubesc. ovaries.
4. Ls. ov., lanc., sm.—St. sol.—Fl. sm., dingy purp., label transversely oval, mucronate.

ORD. LXXIX.—ORCHIDACEÆ (*continued*).

| Botanical Name.                | Common Name.           | Soil<br>or<br>Situation.     | Colour.                 | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--------------------------------|------------------------|------------------------------|-------------------------|----------|--|
| <b>Gen. XI. Orchis L.</b>      |                        |                              |                         |          |  |
| 1. <i>O. purpurea</i> Huds .   | <i>Br. veined O.</i> . | Woods. R.<br>S.E. of<br>Eng. | br.<br>Pu.              | 1-2 ft.  | P. 5-6                                   |
| 2. <i>O. militaris</i> L. . .  | <i>Soldier O.</i> . .  | Calc. wo.<br>V. R.           | Cr.                     | 9-12 in. | P. 5-6                                   |
| 3. <i>O. Simia</i> Lam. . .    | <i>Monkey O.</i> . .   | Calc. wo.<br>V. R.           | ro.<br>Pu.              | 6-12 in. | P. 5                                     |
| 4. <i>O. ustulata</i> L. . .   | <i>Burned O.</i> . .   | Calc. past.<br>and downs.    | Dk.<br>Pu.<br>and<br>W. | 4-9 in.  | P. 6-7                                   |
| 5. <i>O. morio</i> L. . . .    | <i>Green-veined O.</i> | Past. . . .                  | gr.<br>Pu.              | 6-12 in. | P. 5-6                                   |
| 6. <i>O. latifolia</i> L. . .  | <i>Marsh O.</i> . .    | Marshy pl. .                 | Pu.                     | 9-30 in. | P. 6-8                                   |
| <i>b. incarnata</i> (L.) . .   | . . . .                | . . . .                      | . .                     | 9-12 in. | P. 6-7                                   |
| <i>c. cruenta</i> (Muell.).    | . . . .                | Borrodale, etc.              | . .                     | 9-12 in. | P. 6-7                                   |
| 7. <i>O. maculata</i> L. . .   | <i>Spotted O.</i> . .  | Heaths and<br>mt. past.      | Li.<br>or<br>Pu.        | 9-24 in. | P. 6-9                                   |
| <i>b. tridentata</i> Bréb. .   | . . . .                | Woods and<br>past.           | wL.<br>or p<br>Pu.      | 6-12 in. | P. 5-8                                   |
| <i>c. O'Kellyi</i> . . . .     | . . . .                | Calc. past. .                | W.                      | . .      | P. 6-8                                   |
| 8. <i>O. laxiflora</i> Lam. .  | <i>Jersey O.</i> . . . | Marshes . .                  | Pu.                     | 1-3 ft.  | P. 5-6                                   |
| 9. <i>O. mascula</i> L. . .    | <i>Early purple O.</i> | Woods, etc. .                | Pu.                     | 1-2 ft.  | P. 4-6                                   |
| 10. <i>O. pyramidalis</i> L. . | <i>Pyramidal O.</i> .  | Calc. past. .                | Ro.                     | 6-18 in. | P. 7-8                                   |
| 11. <i>O. hircina</i> Crantz . | <i>Lizard O.</i> . .   | Grassy pl.<br>V. R.          | pu.<br>W.               | 1-2 ft   | P. 5-7                                   |
| <b>Gen. XII. Aceras Br.</b>    |                        |                              |                         |          |  |
| 1. <i>A. anthropophora</i> Br. | <i>Man O.</i> . . .    | Calc. past. .                | gY.                     | 6-12 .   | P. 6-7                                   |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XI. *Orchis*.

1. Ls. (3-5 in.) obt.—Helmet of fl. red-br. sep. acu. lat. lobe of lip enlarged, dent.—Lip pale rosy spotted with pu.—Lr. seg. of lip with a point in notch—Fl. ( $\frac{3}{4}$ -1 in.).
2. Ls. 3-5 in.—Helmet rose—Sep. acu.—Lobes of lip obl. crimson dotted with purple.
3. Helmet pale outside, rose inside—Sep. acu.—The legs, arms, and tail of monkey ro. purp. (not dotted) and linear, elongated, ent.
4. Ls. 3-4 in.—Fl. very sm. ( $\frac{1}{3}$  in.) whitish-purp., but at the top of spike blackish purple—Lips white spotted with purple—No point in notch of lower seg. of lip.

(Species 1-4 have leaves which when drying have the odour of Woodruff, *i.e.* of coumarin.)

5. Root tubers 2—Helmet with obtuse sep. which with pet. are green veined—Spur shorter than ovary—Fl. few in loose spike.

(A hybrid of *O. morio* and *O. mascula* has been found.)

6. Root tubers palmate—Lip obsc. 3-lobed, the 2 lat. sep. patent—St. hollow—Ls. lanc. acute, not hooded—Bract longer than ovary.

*b. Ls. narrowed from broad base, hooded at end—Fl. often flesh-coloured.*

*c. Ls. broadest in midd. short ob.—Cumberland.*

(Hybrids of *latifolia* × *maculata*, and var. *tridentata*; *O. latifolia* × var. *incarnata* and var. *incarnata* × *maculata* have been recorded; besides several minor varieties.)

7. Lip broad 3-lobed, flat—Ls. spotted—St. solid—Bract usually shorter than ovary—Middle lobe of lower lip short, spike short = *ericetorum* Lint.—On acid soils.

*b. Mid. lobe of lr. lip. longer than the narrowed lateral ones—Spike cylind.—On basic soils = O maculata* Sm.

*c. Spike obl.-cyl.—Lip of 3 narrow obl. segments; middle one longer than lateral, gradually narrowed to point—Pure white—Ls. narrow, keeled, acute, unspotted—Co. Clare, etc. = O. Okellyi* Druce.

(Hybrids of *O. maculata* × *Habenaria conopsea* (*O. Evansii* Druce) and its var. have been found.)

8. Bract 3-veined—Ls. lanc.—Root tubers 2—Spike lax—Lat. sep. reflexed—Fl. 1 in.
9. Bract 1-veined—Ls. lanc. spotted—Root tubers 2—Spike lax—Lat. sep. acu. reflexed upwards—Spur obt. as long as ovary.
10. Tuber. ent.—Ls. lin. lanc. acu.—Spike dense, pyramidal at first—Lip with 3 equal lobes—Pollen glands united (in spec. 1-9 the pollen glands are divided.)
11. Spike lax—Poll. gl. united—Lip lin. gr.-brown, tinged with pu. at base, 1 in. or more long—Scent fœtid.

Gen. XII. *Aceras*.

1. Spike lax—Lat. sep. ovate in helmet, green—Lip. 3 partite; lobes lin., lower one bifid.

ORD. LXXIX.—ORCHIDACEÆ (*continued*).

| Botanical Name.  | Common Name.                         | Soil<br>or<br>Situation.     | Colour.                        | Growth.               | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------------------|------------------------------|--------------------------------|-----------------------|--|
| <b>Gen. XIII. Ophrys L.</b>  |                                      |                              |                                |                       |  |
| 1. <i>O. fuciflora</i> Reichb.<br>( <i>O. Arachnites</i> Lam.)                               | <i>Late Spider O.</i>                | Calc. pl. V.R.               | Pu.                            | 4-9 in.               | P. 5-6                                   |
| 2. <i>O. sphegodes</i> Mill. .<br>( <i>O. aranifera</i> Huds.)<br><i>b. fucifera</i> Druce . | <i>Spider O.</i> . . .               | Calc. pl. L. .<br>. . . . .  | <i>pu.</i><br>Br.<br>. . . . . | 4-12 in.<br>. . . . . | P. 4-5<br>. . . . .                      |
| 3. <i>O. apifera</i> Huds. .<br><i>b. Trollii</i> (Heg.) . .                                 | <i>Bee O.</i> . . . .                | Calc. pl., etc.<br>. . . . . | Pu.<br>. . . . .               | 6-15 in.<br>. . . . . | P. 6-7<br>. . . . .                      |
| 4. <i>O. muscifera</i> Huds.   | <i>Fly O.</i> . . . .                | Woods. L. .                  | <i>br.</i><br>Pu.              | 6-15 in.              | P. 5-7                                   |
| <b>Gen. XIV. Herminium</b><br><i>Br.</i>   |                                      |                              |                                |                       |  |
| 1. <i>H. Monorchis</i> <i>Br.</i> .  | <i>Musk O.</i> . . . .               | Calc. past. and<br>downs. L. | <i>y.</i><br>Gr.               | 4-8 in.               | P. 6-7                                   |
| <b>Gen. XV. Habenaria Br.</b>  |                                      |                              |                                |                       |  |
| 1. <i>H. conopsea</i> <i>Br.</i> . .<br>( <i>Gymnadenia conopsea</i> )                       | <i>Fragrant O.</i> .                 | Grassy pl. .                 | Ro.                            | 8-18 in.              | P. 6-8                                   |
| 2. <i>H. albida</i> <i>Br.</i> . . . .   | . . . . .                            | Past. in hilly<br>pl. L.     | W.                             | 6-12 in.              | P. 6-8                                   |
| 3. <i>H. viridis</i> <i>Br.</i> . . . .  | <i>Frog O.</i> . . . .               | Grassy pl. .                 | Gr.                            | 4-12 in.              | P. 6-9                                   |
| <i>b. bracteata</i> Gray . .   | . . . . .                            | . . . . .                    | . . . . .                      | . . . . .             | . . . . .                                |
| <i>c. ovata</i> Druce . . . .  | . . . . .                            | Turfy cliffs. R.<br>N. Br.   | . . . . .                      | 2-4 in.               | . . . . .                                |
| 4. <i>H. intacta</i> Benth. . .<br>( <i>Neotinea intacta</i> )                               | <i>Irish O.</i> . . . .              | Calc. past.<br>V. R.         | <i>gr.</i><br>W.               | 4-12 in.              | P. 5-6                                   |
| 5. <i>H. virescens</i> Druce .<br>( <i>H. chlorantha</i> )<br><i>b. tricalcarata</i> Druce   | <i>Lge. Butter-</i><br><i>fly O.</i> | Woods . . . .                | W.                             | 9-20 in.              | P. 6-8                                   |
| 6. <i>H. bifolia</i> <i>Br.</i> . . . .  | <i>Sm. Butterfly O.</i>              | Heaths, wo.,<br>etc.         | W.                             | 9-18 in.              | P. 6-8                                   |
| <b>Gen. XVI. Cypripedium</b><br><i>L.</i>  |                                      |                              |                                |                       |  |
| 1. <i>C. Calceolus</i> <i>L.</i> . . .   | <i>Lady's Slipper</i><br><i>O.</i>   | Calc. woods.<br>V. R.        | <i>y.</i><br>Br.               | 12-18 in.             | P. 5-6                                   |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XIII. Ophrys.**

1. Pet. downy, deltoid—Sep. pk. inside—Lip tumid, 4-lobed, longer than sep., with an intermediate cordate, flat appendage in notch.

(A hybrid with *sphegodes* has been found in Kent.)

2. Pet. glab. lin.—Sep. yell.-gr. inside—Lip tumid, 4-lobed, no intermediate appendage in notch.

*b. Petals downy within, lip rarely lobed, its tubercles obscure—Kent.*

(A hybrid (*O. epeirophora* Peterm.) with *O. apifera* has been found in Kent.)

3. Pet. downy, lin.—Sep. pk. inside—Lip tumid, 4-lobed, not longer than sep., with an intermediate, acute, reflexed appendage in notch.

*b. Term. lobe of lip narrow, acute, not reflexed, with paler markings—Sep. showy, acute.*

4. Pet. filiform—Sep. yell.-gr.—Lip obl., 3-lobed; middle lobe bifid.

(A hybrid (*O. hybrida* Pok.) with *sphegodes* has been found.)

**Gen. XIV. Herminium.**

1. Spike, lax, sub-secund, slender—Fl. ( $\frac{1}{8}$  in.)—Sep. broad—Pet. narrow—Lip 3-lobed.

**Gen. XV. Habenaria.**

1. Spike dense, fls. very fragr.—Lat. sep. spreading—Spur long, slender, flexuous.

(Hybrid with *H. albidā* (*H. Schweinfurthii*) has been found in Scotland. Also one with *H. viridis* (*H. Jacksonii*) in Hants.)

2. Ls. several—Fl. whitish ( $\frac{1}{8}$  in.)—Sep. in helmet—Lip acutely 3-lobed.

3. Ls. several—Fl. gr. striped with dk. red ( $\frac{1}{3}$ – $\frac{1}{2}$  in.)—Sep. in helmet—Spurs short—Lip lin., bifid greenish-br.—Bracts shorter than fl.

*b. Bracts longer than fl.*

*c. Ls. broadly ovate—Fl. few—Plant small—Bract as in type—Caithness.*

4. Ls. several, ellip. obl., often spotted—Spike dense—Lat. pet. and sep. in helmet—Lip 3-lobed—Spur sub-glob.—Fl. rarely pale pk.—Co. Clare, etc.

5. Ls. two, large, oval—Sep. spreading—Spur long—Lip ent.—Anth. cells diverging—Fl. greenish white, large.

*b. Fl. with 3 spurs—Rare.*

6. Ls. two, large, oval—Sep. spreading—Spur long—Lip ent.—Anth. cell parallel—Fl. smaller white.

**Gen. XVI. Cypripedium.**

1. St. leafy—Ls. obl. ribbed—Fl. 1-2 large—Sep. and pet. br.—Lip inflated yellow—Very Rare—York and Durham.



## ORD. LXXX.—IRIDACEÆ.

| Botanical Name.                                 | Common Name.             | Soil<br>or<br>Situation.  | Colour.     | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|---------------------------|-------------|----------|--|
| <b>Gen. I. Iris L.</b>                          |                          |                           |             |          |  |
| 1. <i>I. Pseudacorus L.</i> . .                 | <i>Yellow Flag.</i> . .  | Marshes . . .             | Y.          | 1-4 ft.  | P. 5-8                                   |
| <i>b. acoriformis (Bor.)</i> . . . . .          | . . . . .                | . . . . .                 | . . .       | . . .    | . . .                                    |
| <i>c. Bastardi (Bor.)</i> . . . . .             | . . . . .                | . . . . .                 | . . .       | . . .    | . . .                                    |
| 2. <i>I. foetidissima L.</i> . .                | <i>Gladdon</i> . . . .   | Dry hedge-<br>banks, etc. | Pu.         | 2-3 ft.  | P. 5-7                                   |
| <i>b. citrina Bromf.</i> . . . .                | . . . . .                | . . . . .                 | Y.          | . . .    | . . .                                    |
| *3. <i>I. spuria L.</i> . . . .                 | . . . . .                | Marshy pl.<br>V. R.       | Var.        | 2-3 ft.  | P. 6-7                                   |
| <b>Gen. II. Hermodactylus<br/>Adans.</b>        |                          |                           |             |          |  |
| *1. <i>H. tuberosus Mill.</i> . . . . .         | . . . . .                | Hedge-banks,<br>V. R.     | bl.<br>Br.  | 1-2 ft.  | P. 6-7                                   |
| <b>Gen. III. Crocus L.</b>                      |                          |                           |             |          |  |
| *1. <i>C. biflorus Mill.</i> . . . . .          | . . . . .                | Past. V. R. .             | Var.        | 4-6 in.  | P. 3-4                                   |
| *2. <i>C. vernus Mill.</i> . . . .              | <i>Golden Crocus</i> . . | Past. V. R. .             | y.<br>Or.   | 4-6 in.  | P. 3-4                                   |
| ( <i>C. aureus Sibth.</i> ) . . . . .           | . . . . .                | . . . . .                 | . . .       | . . .    | . . .                                    |
| 3. <i>C. nudiflorus Sm.</i> . . . .             | <i>Naked-fl. C.</i> . .  | Mead. R. . .              | Pu.         | 3-6 in.  | P. 8-10                                  |
| 4. <i>C. albiflorus Kit.</i> . . . .            | <i>Spring C.</i> . . . . | Fields, mead.<br>R.       | Vi.         | 3-6 in.  | P. 4-5                                   |
| ( <i>C. vernus All.</i> ) . . . . .             | . . . . .                | . . . . .                 | . . .       | . . .    | . . .                                    |
| <b>Gen. IV. Romulea<br/>Maratti</b>             |                          |                           |             |          |  |
| 1. <i>R. Columnæ S. &amp; M.</i> . . . . .      | . . . . .                | Sandy pl.<br>V. R.        | pale<br>Vi. | 2-4 in.  | P. 4-5                                   |
| <b>Gen. V. Sisyrinchium L.</b>                  |                          |                           |             |          |  |
| 1. <i>S. angustifolium Mill.</i> . .            | <i>Blue-eyed Grass</i>   | Dp. grassy pl.<br>Ireland | Bu.         | 6-12 in. | P. 6-7                                   |
| ( <i>S. anceps</i> ) . . . . .                  | . . . . .                | . . . . .                 | . . .       | . . .    | . . .                                    |
| *2. <i>S. californicum<br/>Aiton.</i> . . . . . | <i>Yellow S.</i> . . . . | Marshes. R. .             | Y.          | 6-18 in. | P. 7-9                                   |
| <b>Gen. VI. Gladiolus L.</b>                    |                          |                           |             |          |  |
| 1. <i>G. illyricus Ker.</i> . . . .             | <i>Gladiolus</i> . . . . | Open woods<br>V. R.       | Cr.         | 1-3 ft.  | P. 6-7                                   |

## ORD. LXXXI.—AMARYLLIDACEÆ.

|  |                         |                |       |           |        |
|--|-------------------------|----------------|-------|-----------|--------|
| <b>Gen. I. Narcissus L.</b>                    |                         |                |       |           |        |
| 1. <i>N. Pseudo-Narcissus<br/>L.</i> . . . . . | <i>Daffodil</i> . . . . | Woods . . . .  | Y.    | 6-12 in.  | P. 3-5 |
| <i>b. lobularis (Haw.)</i> . . . . .           | . . . . .               | Past. . . . .  | . . . | . . .     | 3-5    |
| * <i>c. major (Curt.)</i> . . . . .            | . . . . .               | Orchards, etc. | . . . | 12-18 in. | P. 3-5 |

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ORD. LXXX.—IRIDACEÆ.

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CHARACTERISTICS OF SPECIES AND VARIETIES.

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**Gen. I. Iris.**

1. St. round—Fl. rather deep yell.—Stig. long narrow—Claw short, blade broad.
  - b. Stigmas short, broad—Fl. paler yell.—Blade sub-orbic. and claw with promi. purple br. veins.*
  - c. Fl. pale lemon yellow, without dark veins.*
2. St. angled—Fl. livid purple—Berries orange-red—Pl. fœtid.
  - b. Flowers yellow, with purple lines.*
- \*3. St. round—Ls. ln.—Lamina [externally yellowish white-veined with] blue, claw striate, inner segm. and stig. violet.—Carp. apic.—Lincolnshire, naturalized.

**Gen. II. Hermodactylus.**

- \*1. Ls. tetragonal, 1-fld.—Segm. of perianth acute, velvety purple—Root tuberous—Penzance, Cork.

**Gen. III. Crocus.**

- \*1. Fl. vernal—Scape naked—Stig. longer than sta.—Fl. pale lilac with yellow and pu. stripes—Suffolk.
- \*2. Fl. vernal—Scape naked—Stig. shorter than sta.—Fl. golden-yellow—Suffolk.
3. Fl. autumn, sol.—Stig. deeply lacin.—Scape enveloped in tubular sheaths.
4. Fl. vernal (1-2)—Stig. 3-fid. ; lobes cuneate—Scape as in 3.

**Gen. IV. Romulea = Trichonema.**

1. Ls. rad. fili. furrowed—Scape 1 flowered, drooping—Corm size of pea—Devon, Cornw., Ch. Isles.

**Gen. V. Sisyrinchium.**

1. Ls. rad. ensiform—Scape 2 edged—Fl. umbell.—Blue—Caps. glob. trigonous—Ireland.
- \*2. Ls. rad.—Scape simp. compressed—Fl. yellow (becoming orange) with dk. veins—Caps. ellipsoid. trigon.—A Californian species naturalized in Wexford.

**Gen. VI. Gladiolus.**

1. Ls. glauc. ensi.—Fl. unilat. crims. pu.—Perianth campan.—New Forest.

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ORD. LXXXI.—AMARYLLIDACEÆ.

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**Gen. I. Narcissus.**

1. Ls. flat—St. one flowered—Fl. (2 in.) crown lemon-yell., campan. as long as (sulph.-yell.) perianth segm.—Margin obscurely 6-lobed.
  - b. Perianth and crown both lemon-yell.—Crown distinctly 6-lobed.*
  - \**c. More robust (often double flowered), per. segm. broader—Crown with 6 rounded lobes.*

ORD. LXXXI.—AMARYLLIDACEÆ (*continued*).

| Botanical Name.   | Common Name.                              | Soil<br>or<br>Situation. | Colour.                | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|---|--------------------------|------------------------|-----------|--|
| <b>Gen. I. Narcissus</b> <i>L.</i><br>( <i>continued</i> ). |   |                          |                        |           |  |
| * <sub>2</sub> . <i>N. biflorus</i> <i>Curt.</i> . .        | <i>Jonquil</i> . . .                      | Fields, etc. .           | <i>Cm</i><br><i>W.</i> | 12-18 in. | P. 4-5                                   |
| * <sub>3</sub> . <i>N. poeticus</i> <i>L.</i> . .           | <i>Pheasant's Eye</i>                     | Fields, etc. .           | <i>W.</i>              | 12-18 in. | P. 5                                     |
| <b>Gen. II. Galanthus</b> <i>L.</i>                         |   |                          |                        |           |  |
| 1. <i>G. nivalis</i> <i>L.</i> . . .                        | <i>Snowdrop</i> . .                       | Woods and fie.           | <i>W.</i>              | 6-10 in.  | P. 2-4                                   |
| <b>Gen. III. Leucojum</b> <i>L.</i>                         |   |                          |                        |           |  |
| 1. <i>L. vernal</i> <i>L.</i> . . .                         | <i>Snowflake.</i><br><i>Spring S.</i> . . | Copses. R. .             | <i>gW.</i>             | 6-12 in.  | P. 4-5                                   |
| 2. <i>L. æstivum</i> <i>L.</i> . . .                        | <i>Summer S.</i> . .                      | Str. sides L. .          | <i>gW.</i>             | 1-2 ft.   | P. 5-7                                   |

## ORD. LXXXII.—DIOSCOREACEÆ.

|                                     |                       |            |            |            |        |
|-------------------------------------|-----------------------|------------|------------|------------|--------|
| <b>Gen. I. Tamus</b> <i>L.</i>      |                       |            |            |            |        |
| 1. <i>T. communis</i> <i>L.</i> . . | <i>Black Bryony</i> . | Hedges . . | <i>yG.</i> | <i>Cl.</i> | P. 5-6 |

## ORD. LXXXIII.—LILIACEÆ.

|  |                                   |                |             |          |          |
|--|-----------------------------------|----------------|-------------|----------|----------|
| <b>Gen. I. Ruscus</b> <i>L.</i>  |                                   |                |             |          |          |
| 1. <i>R. aculeatus</i> <i>L.</i> . .   | <i>Butcher's Broom</i>            | Copses . .     | <i>rwG.</i> | 1-2 ft.  | Shb. 3-4 |
| <b>Gen. II. Asparagus</b> <i>L.</i>  |                                   |                |             |          |          |
| 1. <i>A. officinalis</i> <i>L.</i> . .                                       | <i>Asparagus</i> . .              | Sea cliffs . . | <i>yG.</i>  | 6-18 in. | P. 6-7   |
| * <i>b altilis</i> <i>L.</i> . . .   | . . . .                           | Wa. pl. . .    | . . .       | 2-4 ft.  | . .      |
| <b>Gen. III. Polygonatum</b>   |                                   |                |             |          |          |
| <i>Hill</i>  |                                   |                |             |          |          |
| 1. <i>P. verticillatum</i> <i>All.</i>                                       | <i>Narrow-leaved</i><br><i>S.</i> | Woods. V. R.   | <i>gW.</i>  | 2-3 ft.  | P. 6-7   |
| 2. <i>P. multiflorum</i> <i>All.</i>   | <i>Common S.</i> . .              | Woods. L. .    | <i>gW.</i>  | 2-4 ft.  | P. 6-7   |
| 3. <i>P. odoratum</i> <i>Druce</i> .<br>( <i>P. officinale</i> <i>All.</i> ) | <i>Angular S.</i> . .             | Woods. L. .    | <i>gW.</i>  | 6-18 in. | P. 5-6   |



ORD. LXXXI.—AMARYLLIDACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Narcissus** (*continued*).

- \*2. Ls. acutely keeled—Scape 1-3 fl. ( $1\frac{1}{2}$  in.)—Fl. white, or pale straw, salver shaped; tube 1 in.
- \*3. Ls. bluntly keeled—Pet. white, broadly ov.—Crown short concave, yell. with bright red margin.

(Several other species occur as garden escapes, including *N. odoratus* L. in Cornwall.)

**Gen. II. Galanthus.**

- 1. Ls. glauc. keeled—Fl. sol. (1 in.), drooping.

**Gen. III. Leucojum.**

- 1. Ls. and fls. in spring—Scape 1-2 fld.—Dorsetshire, copse and hedges—Seeds caruncled.
- 2. Fl. with ls. (May-June) in water or on rich mud—Scape 2-6 fld.—Seeds not caruncled.

## ORD. LXXXII.—DIOSCOREACEÆ.

**Gen. I. Tamus.**

- 1. St. long, twining (6-12 ft.)—Ls. (2-3 in.) ov. cord. acum. glossy—Fl. ( $\frac{1}{8}$  in.)—Berry red.

## ORD. LXXXIII.—LILIACEÆ.

**Gen. I. Ruscus.**

- 1. St. branched rigid, angled—Leaf-like cladode ov. acum. rigid, evergr. with sm. sub-sess. fl. ( $\frac{1}{8}$  in.) in centre; tip of cladode spiny—Berry bright red—Chiefly S. of Engl.

**Gen. II. Asparagus.**

- 1. St. prostr., terete, much branched—Ls. setac. fascic.—Berry ( $\frac{1}{4}$  in.) red—Rare.  
\*b. *St. sl. upright, branches long*—A garden escape.

**Gen. III. Polygonatum.**

- 1. St. ang.—Ls. whorled, narr. lanc.—Perianth constricted in mid.—Filam. papillose—Berry red—N. Brit. and Scotl.
- 2. St. round—Ls. alt. (3-5 in.) ellip. lanc.—Perianth constricted in mid.—Filam. downy—Berry bluish-bl.
- 3. St. ang.—Ls. alt. (3-4 in.) ellip. lanc.—Peri. cylind.—Filam. glab.—Berry bluish-bl.—Calc. woods, and cliffs.

ORD. LXXXIII.—LILIACEÆ (*continued*).

| Botanical Name.  | Common Name.                   | Soil<br>or<br>Situation.                 | Colour.     | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------------|--|-------------|-----------|--|
| <b>Gen. IV. Maianthemum</b><br><i>Wigg.</i>                                      |                                |  |             |           |  |
| 1. <i>M. Bifolium</i> Sch. . .<br>( <i>Unifolium Bifolium</i> Druce)             | <i>May Lily</i> . .            | Wooded pl.<br>V. R. York-<br>shire, etc. | gr.<br>Y.   | 4-8 in.   | P. 5-6                                   |
| <b>Gen. V. Convallaria</b> L.  |                                |  |             |           |  |
| 1. <i>C. majalis</i> L. . . .  | <i>Lily-of-the-<br/>Valley</i> | Woods. . .                               | W.          | 4-9 in.   | P. 5-6                                   |
| <b>Gen. VI. Simethis</b> Kunth.  |                                |  |             |           |  |
| 1. <i>S. planifolia</i> Gr. &<br><i>Godr.</i><br>( <i>Pubilaria planifolia</i> ) | . . . .                        | Fir woods and<br>rocky pl. R.            | p.<br>Pu.   | 6-18 in.  | P. 5-6                                   |
| <b>Gen. VII. Allium</b> L.   |                                |  |             |           |  |
| 1. <i>A. Ampeloprasum</i> L.   | <i>Wild Leek</i> . .           | Wa. pl., etc.                            | gW.         | 3-4 ft.   | P. 7-8                                   |
| <i>b. bulbiferum</i> Syme .  | . . . .                        | . . . .                                  | . . . .     | . . . .   | . . . .                                  |
| <i>c. Babingtonii</i> (Borr.)  | . . . .                        | . . . .                                  | . . . .     | 4-6 ft.   | . . . .                                  |
| 2. <i>A. Scorodoprasum</i> L.  | <i>Purple Garlic</i> .         | Bushy pl. .                              | Pu.         | 2-3 ft.   | P. 7-8                                   |
| 3. <i>A. vineale</i> L. . . .  | <i>Crow Garlic</i> .           | Field, wa. pl.                           | Pk.         | 1-3 ft.   | P. 6-8                                   |
| <i>b. bulbiferum</i> Syme .  | . . . .                        | . . . .                                  | . . . .     | . . . .   | . . . .                                  |
| <i>c. compactum</i> Thuill.  | . . . .                        | . . . .                                  | . . . .     | . . . .   | . . . .                                  |
| 4. <i>A. sphærocephalum</i> L.   | <i>Round-headed G.</i>         | Sandy and<br>calc. pl. R.                | R.          | 1-2 ft.   | P. 6-7                                   |
| 5. <i>A. ursinum</i> L. . . .  | <i>Ramsons</i> . . .           | Woods . . .                              | W.          | 6-12 in.  | P. 4-7                                   |
| *6. <i>A. triquetrum</i> L. . .  | . . . .                        | Hedge bks. L.                            | W.          | 6-18 in.  | P. 4-6                                   |
| *7. <i>A. carinatum</i> L. . . .   | . . . .                        | Banks, etc. R.                           | ro.<br>Pk.  | 6-15 in.  | P. 7-8                                   |
| 8. <i>A. oleraceum</i> L. . .  | <i>Field Garlic</i> .          | Waysides,<br>etc. R.                     | br.<br>W.   | 10-18 in. | P. 7-8                                   |
| <i>b. complanatum</i> Fr.  | . . . .                        | . . . .                                  | . . . .     | . . . .   | . . . .                                  |
| 9. <i>A. Schœnoprasum</i> L.   | <i>Chives</i> . . . .          | Riv. sides,<br>etc.                      | pale<br>Pu. | 6-15 in.  | P. 6-7                                   |
| <i>b. sibiricum</i> (L.) . . .   | . . . .                        | Lizard downs                             | . . .       | 3-9 in.   | . . .                                    |
| *10. <i>A. paradoxum</i> Don.  | . . . .                        | W. pl. . . .                             | W.          | 6-12 in.  | P. 7-8                                   |
| <b>Gen. VIII. Muscari</b><br><i>Mill.</i>  |                                |  |             |           |  |
| 1. <i>M. racemosum</i> Lam.<br>& DC.   | <i>Grape Hyacinth</i>          | Grassy pl.<br>R.                         | B.          | 4-10 in.  | P. 5-6                                   |
| <b>Gen. IX. Scilla</b> L.  |                                |  |             |           |  |
| 1. <i>S. verna</i> Huds. . . .   | <i>Spring Squill</i> .         | Grassy pl. nr.<br>the sea                | B.          | 4-6 in.   | P. 4-5                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IV. Maianthemum = Unifolium** *Adans, the older name.*

1. Ls. two, triang.-cord., alt. stalked—Rac. spicate (1-2 in.)—Fl. ( $\frac{1}{3}$  in.) 4-merous.

**Gen. V. Convallaria.**

1. Ls. two, ov., lanc. (6-8 in.), petioled—Rac. 6-12 fld.—Fl. ( $\frac{1}{3}$  in.) odorous, nodding.

**Gen. VI. Simethis = Pubilaria** *Raf., older name.*

1. Ls. lin. recurved—Scape dichot. branched—Fl. corymbose, seg. obl. obt. conc., purp. on back, white inside—Bournemouth, Derrynane.

**Gen. VII. Allium.**

1. Ls. (1-2 in. brd.) keeled—Sheath cylind.—Umbell. compact; fl. many; anth. exserted.  
*b. Heads compact, bulbils few—Guernsey.*  
*c. Fls. few; bulbils very many—Cornw., Ireland.*
2. Ls. ( $\frac{1}{3}$ - $\frac{2}{3}$  in. broad) lin. flat—Sheath 2-edged—Anth. included—Head with claret-purple bulbils—Rare.
3. Ls. fistular—Heads bulbiferous—Spathe sol. with long beak.  
*b. Head bulbs and fls. mixed.*  
*c. Heads compact with bulbils only, with leaf-like point.*
4. Umbels without bulbils—Anth. included—Spathes 2, shortly beaked—Ls. fistular—Gloster, Jersey.
5. Ls. all radical, ov. lanc. (2 in. brd.)—Stem bluntly triang.—Fl. in flat-topped umbell.
- \*6. Ls. radical lin. sharply keeled—Scape triquetrous—Head lax fld.—Perianth ( $\frac{2}{3}$  in.) campan.—Introduced Cornw., Ch. Isles.
- \*7. Ls. lin. chan.—Spathes 2, beaks very long—Sta. at length twice as long as perianth—Tayside, Perth, Notts., Linc., etc.
8. Ls. fleshy, nearly flat, grooved above—Spathes 2, beak slend., unequal—Umbell. lax, bulbiferous—Sta. not longer than perianth.  
*b. Ls. thick, nearly flat—Yorks., Northumb.—Rare.*
9. Ls. fistular, head dense, fl. without bulbils—Sta. included, all simple—Barren bulbils with ls.  
*b. Ls. recurved, ribs more scabrid.—Per. segm. abruptly acum.—Barren bulb single leaved.*
- \*10. A Siberian species—Scape leafy at base—Ls. channelled involute at top—Cor. campan. segm. ellip. obl.

**Gen. VIII. Muscari.**

1. Ls. lin. flaccid, keeled, long—Rac. short, cylind., many fld.—Fl. ( $\frac{1}{6}$ - $\frac{1}{4}$  in.) glob.

**Gen. IX. Scilla.**

1. Ls. channelled, vernal—Bract lanc. as long as ped.—Fl. sub-corymbose, bright blue ( $\frac{1}{2}$  in.)—Peri. segm. free, anth. purple.



ORD. LXXXIII.—LILIACEÆ (*continued*).

| Botanical Name.  | Common Name.                                      | Soil<br>or<br>Situation.     | Colour.   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---|------------------------------|-----------|----------|--|
| <b>Gen. XI. Scilla L.</b><br>( <i>continued</i> ).       |   |                              |           |          |  |
| 2. <i>S. autumnalis</i> L. .                             | <i>Autumnal S.</i> .                              | Past. chiefly<br>nr. the sea | pB.       | 4-6 in.  | P. 8-9                                   |
| 3. <i>S. nonscripta</i> L. & H.<br>( <i>Hyacinthus</i> ) | <i>Bluebell</i> . . .                             | Woods . .                    | B.        | 6-18 in. | P. 4-6                                   |
| <i>b. bracteata</i> Druce .                              | . . . .   | . . . .                      | . .       | . .      | . .                                      |
| <b>Gen. X. Ornithogalum L.</b>                           |   |                              |           |          |  |
| 1. <i>O. pyrenaicum</i> L. .                             | <i>Star of Bethlehem.</i><br><i>Spiked S.</i> . . | Woods . .                    | gr.<br>W. | 1-2 ft.  | P. 6-7                                   |
| 2. <i>O. umbellatum</i> L. .                             | . . . .   | Woods and<br>past. R.        | W.        | 4-12 in. | P. 4-5                                   |
| *3. <i>O. nutans</i> L. . . .                            | <i>Drooping S.</i> .                              | Wa. pl. R.<br>Shrubberies    | gW.       | 8-12 in. | P. 4-5                                   |
| <b>Gen. XI. Lilium L.</b>                                |   |                              |           |          |  |
| *1. <i>L. pyrenaicum</i> L. .                            | <i>Lily.</i><br><i>Pyrenean L.</i> .              | Hedge-bk.<br>V. R.           | or.<br>Y. | 1-3 ft.  | P. 6-7                                   |
| 2. <i>L. Martagon</i> L. . .                             | <i>Martagon L.</i> .                              | Woods. . .                   | Pu.       | 1-4 ft.  | P. 6-7                                   |
| <b>Gen. XII. Fritillaria L.</b>                          |   |                              |           |          |  |
| 1. <i>F. Meleagris</i> L. . .                            | <i>Snake's Head</i> .                             | Dp. mead. L.                 | Pu.       | 6-15 in. | P. 5-6                                   |
| <b>Gen. XIII. Tulipa L.</b>                              |   |                              |           |          |  |
| 1. <i>T. sylvestris</i> L. . .                           | <i>Tulip</i> . . . .                              | Mead., parks,<br>etc.        | Y.        | 6-18 in. | P. 4-5                                   |
| <b>Gen. XIV. Gagea Sal.</b>                              |   |                              |           |          |  |
| 1. <i>G. lutea</i> Ker. . . .                            | <i>Yell. Star of<br/>Bethlehem</i>                | Woods, etc.<br>R.            | gY.       | 4-10 in. | P. 3-4                                   |
| <b>Gen. XV. Lloydia Sal.</b>                             |   |                              |           |          |  |
| 1. <i>L. serotina</i> Reichb.                            | . . . .   | Mt. cliffs.<br>V. R.         | W.        | 4-8 in.  | P. 5-6                                   |
| <b>Gen. XVI. Colchicum L.</b>                            |   |                              |           |          |  |
| 1. <i>C. autumnale</i> L. . .                            | <i>Meadow Saffron</i>                             | Mead. and<br>woods.          | p.<br>Pu. | 6-12 in. | P. 8-10                                  |
| <b>Gen. XVII. Narthecium Huds.</b>                       |   |                              |           |          |  |
| 1. <i>N. ossifragum</i> Huds.                            | <i>Bog Asphodel</i> .                             | Bogs . . .                   | Y.        | 6-12 in. | P. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XI. Scilla** (*continued*).

2. Ls. lin. autumnal—Bract o—Fl. shortly racemose, bluish purpl.—Peri. segm. free, anth. purp.
3. Ls. vernal, channelled, long, acum.—Bracts in pairs—Peri. segm. connate at base—Anth. yellow—Fl. (1 in. long) drooping.  
*b. Bracts longer than flowers, coloured.*

**Gen. X. Ornithogalum.**

1. Ls. vernal—Peri. ( $\frac{1}{4}$ –1 in.) segm. narr. obl.—Rac. spike-like, many-fl., erect.
2. Peri. (1–1 $\frac{1}{2}$  in.) star-like, erect, corymb.—Ped. longer than bracts.
- \*3. Peri. (1–1 $\frac{1}{2}$  in.) drooping in pend. rac.—Ped. shorter than bracts—A garden escape.

**Gen. XI. Lilium.**

- \*1. Ls. scattered, lin. lanc.—Fl. few umbell.—Segm. of peri. lin. lanc., revolute, yellow—Near South Molton, N. Devon.
2. Ls. whorled, ellip. lanc.—Fl. drooping; perianth reflexed, dull purp.

**Gen. XII. Fritillaria.**

1. Ls. lin. lanc. flat ent., glauc.—Fl. sol. drooping chequered with dull purp.

**Gen. XIII. Tulipa.**

1. Ls. lin. lanc. glauc.—Fl. sub-erect, bright yell., peri. segm. ellip.-lanc.

**Gen. XIV. Gagea.**

1. St. ang., shorter than the lin. lanc. ribbed ls.—Fl. umbell.—Bract 1–3—Peri. ( $\frac{1}{2}$ – $\frac{2}{3}$  in.) segm. lin. obl. obt. thin, yell., back green—Local.

**Gen. XV. Lloydia.**

1. Ls. semi-cyl. trigonous.—St. ls. sheathing, incurved.—Fl. ( $\frac{1}{2}$  in.) segm. obov. obl. veined with purp.—Very rare—Snowdon range.

**Gen. XVI. Colchicum.**

1. Ls. vernal, lanc. flat (6–12 in.)—Fl. autumnal (1 $\frac{1}{2}$  in.)—Caps. (1–2 $\frac{1}{2}$  in.)—Sheath stout, long, large—Rarely small vernal flowers are found—Rarely white fl.

**Gen. XVII. Narthecium.**

1. Ls. rigid, ribbed, acum.—Pedi. with 1 bract at base and 1 above middle—Peri. segm. lin. obl.—Fl. ( $\frac{1}{2}$  in.)—Anth. deep orange—Caps. red ( $\frac{1}{2}$  in.).

ORD. LXXXIII.—LILIACEÆ (*continued*).

| Botanical Name.                              | Common Name.            | Soil<br>or<br>Situation. | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|--------------------------|---------|----------|--|
| <b>Gen. XVIII. Tofieldia</b><br><i>Huds.</i> |                         |                          |         |          |  |
| 1. <i>T. palustris</i> <i>Huds.</i> .        | <i>Scot. Asphodel</i> . | Mt. bogs . .             | pG.     | 4-8 in.  | P. 7-8                                   |
| <b>Gen. XIX. Paris</b> <i>L.</i>             |                         |                          |         |          |  |
| 1. <i>P. quadrifolia</i> <i>L.</i> .         | <i>Herb Paris</i> . .   | Woods. <i>L.</i> .       | pG.     | 6-12 in. | P. 5-7                                   |

## ORD. LXXXIV.—JUNCACEÆ.

|   |                        |                         |  |          |        |
|---|------------------------|-------------------------|--|----------|--------|
| <b>Gen I. Juncus</b> <i>L.</i>          | <i>Rush.</i>           |                         |  |          |        |
| * <i>Maritimi.</i>                      |                        |                         |  |          |        |
| 1. <i>J. spinosus</i> <i>Forsk.</i>     | <i>Sea R.</i> . . .    | Coast . . . .           |  | 1-3 ft.  | P. 7-8 |
| 2. <i>J. acutus</i> <i>L.</i> . . .     | <i>Sharp Sea R.</i> .  | Sea sand. <i>R.</i> . . |  | 2-4 ft.  | P. 7-8 |
| <i>b. effusus</i> <i>Buch.</i> . .      | . . . .                | . . . .                 |  | . .      | . .    |
| * * <i>Efoliati.</i>                    |                        |                         |  |          |        |
| 3. <i>J. conglomeratus</i> <i>L.</i>    | <i>Common R.</i> .     | Wet pl. . . .           |  | 1-3 ft.  | P. 7-8 |
| <i>b. effusus</i> ( <i>L.</i> ) . . .   | . . . .                | . . . .                 |  | . .      | . .    |
| × <i>inflexus</i> . . . .               | . . . .                | . . . .                 |  | . .      | . .    |
| 4. <i>J. inflexus</i> <i>L.</i> . . .   | <i>Hard R.</i> . . .   | Wet, stiff soils . .    |  | 1-3 ft.  | P. 7-8 |
| ( <i>J. glaucus</i> <i>Ehrh.</i> )      |                        |                         |  |          |        |
| 5. <i>J. balticus</i> <i>Willd.</i> .   | <i>Baltic R.</i> . .   | Sandy pl. . . .         |  | 1-2 ft.  | P. 7-8 |
|   |                        | Scot.                   |  |          |        |
| 6. <i>J. filiformis</i> <i>L.</i> . .   | <i>Slender R.</i> . .  | Lake marg. . .          |  | 6-8 in.  | P. 7-8 |
|   |                        | V. R. N. Br.            |  |          |        |
| * * * <i>Articulati.</i>                |                        |                         |  |          |        |
| 7. <i>J. subnodulosus</i>               | <i>Obtuse-fl. R.</i> . | Marshes . . . .         |  | 1-3 ft.  | P. 7-8 |
| <i>Schrank</i>                          |                        |                         |  |          |        |
| ( <i>J. obtusiflorus</i> <i>Ehrh.</i> ) |                        |                         |  |          |        |
| <i>b. confertus</i> <i>Druce</i> .      |                        |                         |  |          |        |
| 8. <i>J. sylvaticus</i> <i>Reich.</i>   | <i>Wood R.</i> . . .   | Wet sh. pl. . . .       |  | 1-3 ft.  | P. 7-8 |
| ( <i>J. acutiflorus</i> <i>Ehrh.</i> )  |                        |                         |  |          |        |
| <i>b. multiflorus</i> <i>Druce</i>      | . . . .                | . . . .                 |  | . .      | . .    |
| ( <i>macrocephalus</i> )                |                        |                         |  |          |        |
| 9. <i>J. articulatus</i> <i>L.</i> . .  | <i>Shining-fruited</i> | Wet pl. . . .           |  | 1-2 ft.  | P. 7-8 |
| ( <i>J. lampocarpus</i> <i>Ehrh.</i> )  | <i>R.</i>              |                         |  |          |        |
| <i>b. nigritellus</i> ( <i>Don</i> ) .  | . . . .                | . . . .                 |  | . .      | . .    |
| <i>c. alpinus</i> ( <i>Vill.</i> ) . .  | . . . .                | Mt. bogs. <i>R.</i> . . |  | 6-12 in. | P. 7-8 |



ORD. LXXXIII.—LILIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XVIII. *Tofieldia*.

1. Ls. rad. lin.—St. slend.—Bracteoles scarious—Fl. ( $\frac{1}{8}$  in.) pal. gr.

Gen. XIX. *Paris*.

1. Ls. ov. (3-5 in.) 4 or 5 in whorl at top of st.—Fl. sol. ( $1\frac{1}{2}$  in.) stalked, erect.

## ORD. LXXXIV.—JUNCACEÆ.

Gen. I. *Juncus*.

- \* *Ls. all reduced to sheaths or a few elongate, solid—Cymes lateral, flowers many—Testa produced at each end of seed.*
1. St. and ls. wiry, ending in sharp point—Sheath short, pale—Peri.-segm. lanc. acute, without scarious marg., equalling ellip.-obl. acum. caps.
2. St. and ls. rigid ending in very sharp point—Sheath long, shining—Peri.-segm. with broad, scarious margin  $\frac{1}{2}$  as long as broad ovoid mucron. caps. ( $\frac{1}{4}$  in.)—Cyme congested.
- b. Cyme diffuse—Wexford.*
- \* \* *Ls. all reduced to sheaths—Cymes wholly lateral, many fld.—Testa not produced at either end.*
3. St. soft, faintly striate; pith continuous—Pan. dense, glob.—Peri.-segm. lanc., exceeding the obov. retuse apic. caps.—Sta. 3.
- b. Pan. lax—Fr. not apic.*
- × a hybrid of 3 × 4—St. rigid, striate—Caps. obov., mucro. = J. diffusus Hoppe.*
4. St. rigid, striate, pith interrupted—Pan. lax, much branched—Seg. of peri. narrow lin.; as long as ellip. obl. caps.—Sta. 6.
5. Root creeping, not tufted—St. rigid, pith contin.—Pan. slightly branched—Sta. 3.
6. St. wiry, fili., pale gr.—Pith interrupted—Cyme sm., few flowered, about mid. of stem—Peri. seg. longer than obt. mucro. caps.—Sta. 6.
- \* \* \* *Ls. hollow and septate within—No testa.*
7. St. and ls. terete—Cyme spreading, branches zigzag—Seg. of peri. pale obt., as long as the ov. acum. caps.
- b. Cymes closely aggregated—Jersey.*
8. St. and ls. sub-compressed, conspic. jointed—Cyme pyram., comp.; segm. of peri. dark chestnut, acum., as long as acum., pale br. caps.
- b. Flowers in cymes, more numerous and longer—Perianth dk. br.*
9. St. and ls. compressed, conspic. jointed—Cyme repeatedly forked—Outer segm. of peri. acute; inner obt.; shorter than the obl. lanc., dk. br. caps.
- b. Outer sep. acute, shorter than lin. obl., rostrate blk. caps.*
- c. Peri. segm. broader equal obt., the outer 3 mucro. with narr. scar. marg.—Fr. obt. ov. mucro.*

ORD. LXXXIV.—JUNCACEÆ (*continued*).

| Botanical Name.  | Common Name.                               | Soil<br>or<br>Situation.              | Colour. | Growth.          | Duration<br>and<br>time of<br>flowering. |
|--|--|---------------------------------------|---------|------------------|--|
| <b>Gen. I. Juncus L.</b><br>( <i>continued</i> ).  |  |                                       |         |                  |  |
| 10. <i>J. bulbosus</i> L. . . .<br>( <i>J. supinus</i> (Moench))                           | <i>Lesser Jointed R.</i>                   | Bogs . . . .                          | . . .   | 3-10 in.         | P. 7-8                                   |
| <i>b. Kochii</i> Druce . . . .   | . . . .                                    | Bogs. R. . . .                        | . . .   | 4-9 in.          | . . .                                    |
| <i>c. fluitans</i> (Lam.) . . . .  | . . . .                                    | Peaty streams . . . .                 | . . .   | Flo.<br>6-36 in. | . . .                                    |
| <i>d. uliginosus</i> Druce . . . .   | . . . .                                    | Dp. heathy pl. . . .                  | . . .   | 3-6 in.          | . . .                                    |
| * * * * <i>Squarrosi</i> .   |  |                                       |         |                  |  |
| 11. <i>J. squarrosus</i> L. . . .  | <i>Heath R.</i> . . . .                    | Heaths . . . .                        | . . .   | 6-12 in.         | P. 7-8                                   |
| 12. <i>J. compressus</i> Jacq.   | <i>Round-fruited R.</i>                    | Moi. pl. L. . . .                     | . . .   | 12-20 in.        | P. 7-8                                   |
| <i>b. Gerardi</i> (Lois.) . . . .  | . . . .                                    | Sea co. . . .                         | . . .   | 6-15 in.         | P. 7-8                                   |
| (Intermediate or hybrid forms occur.)  |  |                                       |         |                  |  |
| *13. <i>J. tenuis</i> Willd. . . .   | <i>Thin R.</i> . . . .                     | Grassy pl. R. . . .                   | . . .   | 6-18 in.         | P. 7-8                                   |
| * * * * * <i>Annu.</i>   |  |                                       |         |                  |  |
| 14. <i>J. bufonius</i> L. . . .  | <i>Toad R.</i> . . . .                     | Dp. pl. . . .                         | . . .   | 1-8 in.          | A. 7-8                                   |
| <i>b. fasciculatus</i> Koch . . . .  | . . . .                                    | Dp. sandy pl. . . .                   | . . .   | 2-3 in.          | . . .                                    |
| 15. <i>J. mutabilis</i> Lam. . . .<br>( <i>J. pygmæus</i> )                                | <i>Tiny R.</i> . . . .                     | Dp. pl. V. R. . . .                   | . . .   | 1-3 in.          | A. 6-7                                   |
| 16. <i>J. capitatus</i> Weig. . . .  | <i>Capitate R.</i> . . . .                 | Heathy pl. R. . . .                   | . . .   | 1-4 in.          | A. 5-7                                   |
| * * * * * <i>Alpini.</i>   |  |                                       |         |                  |  |
| 17. <i>J. castaneus</i> Sm. . . .  | <i>Chestnut R.</i> . . . .                 | Sc. mts. R. . . .                     | . . .   | 4-16 in.         | P. 7-8                                   |
| 18. <i>J. triglumis</i> L. . . .   | <i>Three-fld. R.</i> . . . .               | Wet pl. on<br>mts. L. . . .           | . . .   | 3-9 in.          | P. 7-8                                   |
| 19. <i>J. biglumis</i> L. . . .  | <i>Two-fld. R.</i> . . . .                 | Wet. pl. on Sc.<br>mts. V. R. . . .   | . . .   | 2-6 in.          | P. 7-8                                   |
| 20. <i>J. trifidus</i> L. . . .  | <i>Three-leaved R.</i>                     | Rocks on Sc.<br>mt. . . .             | . . .   | 6-12 in.         | P. 7-8                                   |
| <b>Gen. II. Luzula DC.</b>   |  |                                       |         |                  |  |
| 1. <i>L. sylvatica</i> Gaud. . . .<br>( <i>L. maxima</i> DC. <i>Juncoides sylvaticum</i> ) | <i>Wood Rush.</i><br><i>Great Hairy W.</i> | Woods . . . .                         | . . .   | 1-2 ft.          | P. 5-7                                   |
| <i>b. gracilis</i> Rostr. . . .  | . . . .                                    | Cliffs . . . .                        | . . .   | 6-12 in.         | . . .                                    |
| *2. <i>L. nemorosa</i> E. Mey.<br>( <i>L. albida</i> DC. <i>Junc. nemorosum</i> )          | <i>White Wood R.</i>                       | Shrubberies,<br>railway sides . . . . | . . .   | 12-18 in.        | P. 6-7                                   |
| 3. <i>L. pilosa</i> Willd. . . .<br>( <i>L. vernalis</i> DC. <i>Junc. pilosum</i> )        | <i>Hairy W. R.</i> . . . .                 | Woods . . . .                         | . . .   | 6-12 in.         | P. 5-6                                   |
| <i>b. Borreri</i> (Bromf.) . . . .   | . . . .                                    | . . . .                               | . . .   | . . .            | . . .                                    |

ORD. LXXXIV.—JUNCACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. I. *Juncus* (*continued*).

10. Very variable—St. terete, ls. slend.—Cyme term. nearly simp.—Peri. segm. equal acute, 3 inner rather blunt, nearly equalling the obl., very blunt narrow caps.  
*b. Caps. shorter, sta. 6—Fil. twice as long as ellip. anth.*  
*c. St. elongated, floating, fl. usually viviparous—Ls. very slender—Sta. 3-6.*  
*d. St. erect.*  
 \* \* \* \* \* *Ls. chiefly radical—Cymes term.—Testa not produced at either end.*
11. Ls. all rad.—Ls. rigid—Cyme term. comp.—Seg. of peri. ov.-lanc. as long as obl.-obt. caps.—Bracts broad scarious.
12. St. tufted, with 1 leaf in mid.—Cyme compact—Seg. of peri. ov.-obl., obt. shorter than roundly obovoid, shortly mucro. caps.—Inland.  
*b. St. creeping—Seg. of peri. as long as ov. obl., strongly mucro. caps.—Salt marshes.*
- \*13. St. slender—Ls. lin. grooved, mostly radical—Cyme term., shorter than bract.—Seg. of peri. lanc., longer than spher. caps.—An Amer. sp. becoming naturalized.  
 \* \* \* \* \* *Annual—Stem hollow—Testa not produced.*
14. St. slend., dichot. branches—Fl. sol. sess.—Seg. of peri. longer than the obl. obt. caps.  
*b. St. 2-3 in.—Fl. 2-3 together.*
15. Fl. 1-5 sub-sess. bracteate—Sep. lin. acute unawned, exceeding the long acute 3-edged caps.—Plant tufted, pink when dry—Lizard, Cornwall.
16. Ls. soft fili.—Heads term. bracteate—Peri. seg. unequal awned, twice as long as broadly ovoid mucro. caps.—Lizard, Jersey.
- \* \* \* \* \* *Ls. all terete comp. or channelled—Cymes term. or lat., 1-3, or rarely 6-flowered—Testa produced at each end.*
17. St. with 2 channelled ls.—Seg. of peri. ellip. lanc.  $\frac{1}{2}$  as long as the ov. obl. ( $\frac{1}{4}$  in.) trigonous beaked dk. br. caps.
18. St. round, tufted—Ls. short channelled, formed of 2 tubes—Fl. usually 3, equally memb. bract—Peri. segm. obt. shorter than ellipsoid beaked caps.—Sheath auricled.
19. St. stolonif.—Ls. septate within—Fl. 2, shorter than bract—Peri. segm. obt. equalling turbin. retuse 3-lobed caps.—Sheath not auricled.
20. St. wiry terete in dense rigid masses—Ls. subu., mostly reduced to sheaths—Fl. 1-3 between 2 fili. bracts—Peri. segm. shorter than ovoid beaked caps.

Gen. II. *Luzula* = *Juncoides* *Adans* (*the older name*).

1. Cymes lge. (branches 3-4 in.) spreading in fr.—Ped. long 3-fld.—Peri. seg. awned as long as the ov. acute, beaked caps.  
*b. Root ls. 1-3 in. long—Pan. simp. with single lge. term. head, overtopped by drooping 1-headed peduncles—Shetland.*
- \*2. Cyme doubly comp. clusters of 2-4 whitish or pinkish fl.—Bract about equalling cyme—Anth. sub-sess.—A European species naturalized in a few places.
3. Cyme with few branches, reflexed in fr.—Fl. sub-sol.—Peri. seg. acum. shorter than the broadly ovoid obt. caps.—Branches of cyme divaricate.  
*b. Caps. acute, shorter, usually barren—Perhaps a hybrid.*



ORD. LXXXIV.—JUNCACEÆ (*continued*).

| Botanical Name.  | Common Name.           | Soil<br>or<br>Situation.       | Colour. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|--------------------------------|---------|----------|--|
| <b>Gen. II. <i>Luzula</i> DC.</b><br>( <i>continued</i> ). |                        |                                |         |          |  |
| 4. <i>L. Forsteri</i> Sm. . .                              | <i>Forster's W. R.</i> | Woods. L. . . .                | . . .   | 6-12 in. | P. 3-6                                   |
| 5. <i>L. multiflora</i> Lej. .                             | <i>Heath W. R.</i> .   | Heathy pl. . . .               | . . .   | 6-18 in. | P. 4-6                                   |
| <i>b. congesta</i> (Lej.) . .                              | . . . .                | Bogs, etc. . . .               | . . .   | 6-18 in. | . . .                                    |
| <i>c. pallescens</i> (Hoppe)                               | . . . .                | . . . .                        | . . .   | . . .    | . . .                                    |
| 6. <i>L. pallescens</i> Bess. .                            | <i>Pale W. R.</i> . .  | Fen. V. R. . . .               | . . .   | 6-12 in. | P. 5-6                                   |
| 7. <i>L. campestris</i> DC. .                              | <i>Field W. R.</i> .   | Pastures . . . .               | . . .   | 4-10 in. | P. 4-6                                   |
| <i>b. congesta</i> Syme . .                                | . . . .                | . . . .                        | . . .   | . . .    | . . .                                    |
| 8. <i>L. arcuata</i> Sw. . .                               | <i>Alp. W. R.</i> . .  | Tops of Sc.<br>mt. V. R. . . . | . . .   | 1-4 in.  | P. 6-7                                   |
| 9. <i>L. spicata</i> DC. . .                               | <i>Mt. W. R.</i> . .   | Rocky pl. on<br>mts. . . .     | . . .   | 4-12 in. | P. 6-7                                   |

## ORD. XXXV.—TYPHACEÆ.

|                                      |   |                            |       |          |        |
|--------------------------------------|---|----------------------------|-------|----------|--------|
| <b>Gen. I. <i>Typha</i> L.</b>       |   |                            |       |          |        |
| 1. <i>T. latifolia</i> L. . .        | <i>Reed Mace.</i><br><i>Great R. M.</i> . | Str. pools, etc. . .       | . . . | 3-7 ft.  | P. 6-7 |
| Var. <i>ambigua</i> Sonder           | . . . .                                   | . . . .                    | . . . | . . .    | . . .  |
| 2. <i>T. angustifolia</i> L. .       | <i>Narrow-leaved<br/>R. M.</i>            | Str. sides, etc. . .       | . . . | 3-7 ft.  | P. 6-7 |
| <b>Gen. II. <i>Sparganium</i> L.</b> |   |                            |       |          |        |
| 1. <i>S. ramosum</i> Huds. .         | <i>Bur reed.</i><br><i>Gt. B.</i> . . .   | Ditches . . . .            | . . . | 2-4 ft.  | P. 6-7 |
| <i>b. neglectum</i> (Beeby)          | . . . .                                   | . . . .                    | . . . | . . .    | . . .  |
| <i>c. microcarpum</i><br>(Neum.)     | . . . .                                   | . . . .                    | . . . | . . .    | . . .  |
| 2. <i>S. simplex</i> Huds. .         | <i>Flo. B.</i> . . .                      | Ditches and<br>str. . . .  | . . . | 1-3 ft.  | P. 7-8 |
| 3. <i>S. natans</i> L. . . .         | . . . .                                   | Lakes and<br>pools . . . . | . . . | Flo. . . | P. 7-8 |
| ( <i>S. affine</i> )                 | . . . .                                   | . . . .                    | . . . | . . .    | . . .  |
| <i>b. minimum</i> (Fr.) .            | . . . .                                   | . . . .                    | . . . | . . .    | . . .  |

## ORD. LXXXVI.—ARACEÆ.

|                                  |                         |                    |       |          |        |
|----------------------------------|-------------------------|--------------------|-------|----------|--------|
| <b>Gen. I. <i>Arum</i> L.</b>    |                         |                    |       |          |        |
| 1. <i>A. italicum</i> Mill. .    | . . . .                 | Banks. S of E. . . | . . . | 6-12 in. | P. 5-6 |
| 2. <i>A. maculatum</i> L. .      | <i>Lords and Ladies</i> | Hedgebanks . . .   | . . . | 6-10 in. | P. 4-5 |
| <i>b. immaculatum</i> Gray       | . . . .                 | . . . .            | . . . | . . .    | . . .  |
| <b>Gen. II. <i>Acorus</i> L.</b> |                         |                    |       |          |        |
| 1. <i>A. Calamus</i> L. . .      | <i>Sweet Flag</i> . .   | Str. sides. L. . . | . . . | 3-4 ft.  | P. 6-7 |

ORD. LXXXIV.—JUNCACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. II. *Luzula* (*continued*).

4. Like 3, but ped. one-fl. lanc. erect, caps. acute, seeds with straight blunt crest—Cyme sub-secund.
5. Cyme of many ovate dense drooping dk. br. stalked clusters—Seeds nearly twice as long as broad.
  - b. Cyme dense in a rounded lobed head—Dk. brown.*
  - c. As type, but bracts and peri. segm. pale yell.-br.*
6. Cymes of many ovate sm. dense pale drooping long-stalked clusters.
7. Cyme of 3 or 4 round, term. sess. or stalked spikes—Caps. blunt, nearly globular.
  - b. Clusters agglomerated.*
8. Dwarf—Cymes umbelled, branches few, outer recurved—Caps. ovoid, apic.
9. Slender—Cymes dense fld., spike-like, drooping—Caps. broad ellipsoid, apic.

## ORD. LXXXV.—TYPHACEÆ.

Gen. I. *Typha*.

1. Ls. lin., flat, sub-glauc.—Spikes contiguous—Rachis naked.
  - b. Male and female fls. separated by short spaces, perhaps 1 × 2.*
2. Ls. lin. channelled below, dk. gr.—Spikes separate—Rachis hairy.

Gen. II. *Sparganium*.

1. St. branched—Ls. erect, triang. at base, with conc. sides—Fl. sess.—Ripe fr. obpyramid. cuspid. with short stout beak.
  - b. Ripe fr. obl. obov. obscurely angled, gradually narrowed into a tapering beak.*
  - c. Like 1, but smaller—Fr. smaller, less angular, and less abruptly narrowed into a longer beak.*
2. St. simp.—Ls. erect, long, often floating, triang. at base, with flat sides.
3. St. simp.—Ls. floating, flat, concave at base—Male heads several, sess.—Fr. stalked obl., beak long.
  - b. Male fl. sol.—Fr. sess., beak short.*

## ORD. LXXXVI.—ARACEÆ.

Gen. I. *Arum*.

1. Ls. appearing before winter, triang., with diverging lobes—Spathe thrice as long as spadix.
2. Ls. vernal, sagit., spotted with deflexed lobes—Spathe twice as long as spadix.
  - b. Leaves not spotted.*

Gen. II. *Acorus*.

1. Ls. ensif., midrib thick, margin crimped, yell.-gr., fragrant.

## ORD. LXXXVII.—LEMNACEÆ.

| Botanical Name.                        | Common Name.               | Soil<br>or<br>Situation.    | Colour. | Growth. | Duration<br>and<br>time of<br>flowering. |
|--|----------------------------|-----------------------------|---------|---------|--|
| <b>Gen. I. Lemna</b> <i>L.</i>         | <i>Duckweed.</i>           |                             |         |         |  |
| 1. <i>L. polyrhiza</i> <i>L.</i> . . . | <i>Great D.</i> . . .      | Ponds . . .                 | . . .   | Fl.     | A. . .                                   |
| 2. <i>L. trisulca</i> <i>L.</i> . . .  | <i>Ivy-leaved D.</i> . . . | Ponds . . .                 | . . .   | Fl.     | A. 6-7                                   |
| 3. <i>L. minor</i> <i>L.</i> . . .     | <i>Sm. D.</i> . . .        | Ponds . . .                 | . . .   | Fl.     | A. 6-8                                   |
| 4. <i>L. gibba</i> <i>L.</i> . . .     | <i>Gibbons D.</i> . . .    | Ponds . . .                 | . . .   | Fl.     | A. 6-9                                   |
| <b>Gen. II. Wolffia</b> <i>Hork.</i>   |                            |                             |         |         |  |
| 1. <i>W. arrhiza</i> <i>Wimm.</i>      | . . . .                    | Slow strs. and<br>ponds. R. | . .     | Fl.     | A. 6-7                                   |

## ORD. LXXXVIII.—ALISMACEÆ.

|   |                        |                     |                          |          |        |
|---|------------------------|---------------------|--------------------------|----------|--------|
| <b>Gen. I. Alisma</b> <i>L.</i>           | <i>Water Plantain.</i> |                     |                          |          |        |
| 1. <i>A. Plantago-aquaticum</i> <i>L.</i> | . . . .                | Wat. pl. . .        | Pk.<br>or<br>Li.         | 1-3 ft.  | P. 6-8 |
| <i>b. lanceolatum</i> ( <i>With.</i> )    | . . . .                | . . . .             | . .                      | . .      | . .    |
| <b>Gen. II. Echinodorus</b>               |                        |                     |                          |          |        |
| <i>Rich.</i>                              |                        |                     |                          |          |        |
| 1. <i>E. Ranunculoides</i>                | . . . .                | Lake-sides,<br>etc. | <i>pa.</i><br><i>Pu.</i> | 6-18 in. | P. 6-8 |
| <i>Eng.</i>                               |                        |                     |                          |          |        |
| <i>b. repens</i> <i>Asch.</i> . . .       | . . . .                | . . . .             | . .                      | 4-6 in.  | . .    |
| <i>c. zosterifolius</i> <i>Asch.</i>      | . . . .                | . . . .             | . .                      | . .      | . .    |
| <b>Gen. III. Elisma</b> <i>Buch.</i>      |                        |                     |                          |          |        |
| 1. <i>E. natans</i> <i>Buch.</i> . . .    | <i>Floating W. P.</i>  | Lakes. V. R.        | W.                       | Fl.      | P. 7-8 |
| <b>Gen. IV. Sagittaria</b> <i>L.</i>      | <i>Arrow-head.</i>     |                     |                          |          |        |
| 1. <i>S. sagittifolia</i> <i>L.</i> . . . | <i>Common A.</i> . . . | Shal. water .       | W.                       | 6-18 in. | P. 7-9 |
| *2. <i>S. heterophylla</i>                | <i>Canadian A.</i> . . | Str.-sides. R.      | W.                       | 6-24 in. | P. 6-7 |
| <i>Pursh.</i>                             |                        |                     |                          |          |        |
| <b>Gen. V. Damasonium</b> <i>Hill</i>     |                        |                     |                          |          |        |
| ( <i>Actinocarpus.</i> )                  |                        |                     |                          |          |        |
| 1. <i>D. Alisma</i> <i>Mill.</i> . . .    | <i>Thrum Wort</i> .    | Ponds. R. .         | W.                       | 4-12 in. | P. 7-8 |
| <b>Gen. VI. Butomus</b> <i>L.</i>         |                        |                     |                          |          |        |
| 1. <i>B. umbellatus</i> <i>L.</i>         | <i>Flowering Rush</i>  | Str.-sides . .      | <i>Pu.</i>               | 2-4 ft.  | P. 6-7 |



## ORD. LXXXVII.—LEMNACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Lemna.**

1. Frond broadly obov. ( $\frac{1}{4}$ – $\frac{1}{2}$  in.), plano-conv. 7-nerved—Roots many.
2. Frond thin, ellip. lanc., tip serr.—Root sol.
3. Frond obov. or obt., slightly convex beneath—Root sol.
4. Frond obov. or orbic., tumid beneath—Sta. 2—Root sol.

**Gen. II. Wolffia.**

1. Fronds lin. obl., loosely cellular beneath, very small, nearly sub-globular.

## ORD. LXXXVIII.—ALISMACEÆ.

**Gen. I. Alisma.**

1. Ls. all rad. ov. lanc., sub-cord. (6–8 in.)—Scape panicled with comp. branches—Fr. compressed, obt.
- b. Ls. lanc.—narrower at base.*

**Gen. II. Echinodorus = *Alisma* L. p.p.**

1. Ls. all rad., lin. lanc.—Scape with simp. branches in umbel or whorled—Fr. ribbed acute.
- b. Fl. larger, st. procumb. genic. rooting.*
- c. With linear submerged ls., a state rather than variety.*

**Gen. III. Elisma = *Alisma* p.p.**

1. Rad. ls. lin. sess. pellucid; flo. ls. ellip. obt.—Ped. simp. from the stem-joints—Pet. white, claw yell.—Rare—West Brit.

**Gen. IV. Sagittaria.**

1. Ls. arrow-shaped—Scap. with 3 distant whorls—Fl. ( $\frac{1}{2}$ – $\frac{7}{8}$  in.)—Pet. with deep purple blotch on claw.
- \*2. Ls. ov. lanc. ent.—Pet. without purple mark on claw—River Exe—As var. *iscana* Hiern.

**Gen. V. Damasonium.**

1. Ls. rad. ellip. cord., 5 ribbed, long stalked—Scape with 2–3 whorls of fls.—Fr. ( $\frac{2}{3}$  in.) star-shaped.

**Gen. VI. Butomus.**

1. Ls. rad. lin. trigonous—Scape terete, longer than ls.—Fl. in umbel, with 3-leaved involucre.

## ORD. LXXXIX.—NAIADACEÆ.

| Botanical Name.  | Common Name.                     | Soil<br>or<br>Situation.            | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|----------------------------------|-------------------------------------|-----------|--|
| <b>Gen. I. Triglochin L.</b>                             | <i>Arrow-grass.</i>              |                                     |           |  |
| 1. <i>T. maritimum L.</i> . . .                          | <i>Seaside A.</i> . . .          | Salt mar. . . .                     | 10-12 in. | P. 5-9                                   |
| 2. <i>T. palustre L.</i> . . .                           | <i>Marsh A.</i> . . .            | Marshes . . . .                     | 6-12 in.  | P. 6-8                                   |
| <b>Gen. II. Scheuchzeria L.</b>                          |                                  |                                     |           |  |
| 1. <i>S. palustris L.</i> . . .                          | <i>Marsh S.</i> . . .            | Bogs. V. R. . .                     | 6-8 in.   | P. 7-8                                   |
| <b>Gen. III. Potamogeton L.</b>                          | <i>Pondweed.</i>                 |                                     |           |  |
| SEC. I.  |                                  |                                     |           |  |
| A.   |                                  |                                     |           |  |
| 1. <i>P. natans L.</i> . . . .                           | <i>Broad-leaved<br/>Pondweed</i> | Pools, etc. . . .                   | Fl.       | P. 6-7                                   |
| × <i>lucens</i> = <i>P. fluitans</i><br><i>Roth.</i>     | . . . . .                        | Canal, etc.<br>V. R.                | Fl.       | P. 6-7                                   |
| × <i>angustifolius</i> . . . .                           | . . . . .                        | Fen ditches . .                     | Fl.       | P. 6-7                                   |
| 2. <i>P. polygonifolius Pourr.</i>                       | . . . . .                        | Pools . . . . .                     | Fl.       | P. 6-7                                   |
| <i>b. pseudo-fluitans Syme</i>                           | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>c. cancellatus (Fryer)</i> .                          | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>d. ericetorum Syme</i> . .                            | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| 3. <i>P. Drucei Fryer.</i> . .                           | <i>Loddon P.</i> . . .           | River Loddon .                      | Fl.       | P. 6-7                                   |
| 4. <i>P. coloratus Horn</i> . .                          | <i>Plantain-leaved<br/>P.</i>    | Stagnant peaty<br>water             | Fl.       | P. 6-7                                   |
| ( <i>P. plantagineus</i> )                               | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| × <i>coriaceus</i> . . . . .                             | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| B.   |                                  |                                     |           |  |
| 5. <i>P. alpinus Balb.</i> . . .                         | <i>Reddish P.</i> . . .          | Ditches, strs.,<br>etc.             | Fl.       | P. 6-7                                   |
| ( <i>P. rufescens</i> )                                  | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>b. lacustris Marss.</i> . .                           | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>c. Palmeri Druce</i> . . .                            | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| × <i>gramineus</i> . . . . .                             | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| × <i>prælongus</i> = <i>P. Grif-<br/>fithii Benn.</i>    | . . . . .                        | Aber Lake. V. R.                    | . . .     | P. 7-8                                   |
| 6. <i>P. lanceolatus Sm.</i> . .                         | . . . . .                        | Shall. str. and<br>fen ditch. V. R. | Fl.       | P. 7-9                                   |
| <i>b. hibernicus Benn.</i> . .                           | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| 7. <i>P. Kirkii Syme</i> . . . .                         | . . . . .                        | Str. V. R. . . .                    | Fl.       | P. 7-8                                   |
| ( <i>P. sparganifolius Bab.</i> )                        | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| 8. <i>P. gramineus L.</i> . . . .                        | <i>Various-leaved<br/>P.</i>     | Lakes, etc. . . .                   | Fl.       | P. 6-7                                   |
| ( <i>P. heterophyllus Schreb.</i> )                      | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>b. intermedius (Tisel.)</i>                           | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| <i>c. graminifolius (Fr.)</i><br>( <i>P. Lonchites</i> ) | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| × <i>natans</i> . . . . .                                | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| × <i>perfoliatus?</i> . . . .                            | . . . . .                        | . . . . .                           | . . .     | . . .                                    |
| 8 bis. <i>P. varians Fryer</i> .                         | . . . . .                        | Str. V. R. . . .                    | Fl.       | P. 6-8                                   |

## ORD. LXXXIX.—NAIADACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

## Gen. I. Triglochin.

1. Ls. rad. kn. fleshy—Fl. in a lax simp. spike.—Fr. ovate, 6-celled.
2. Similar but smaller—Fr. lin. ang., 3-celled, attached to the axis by a point.

## Gen. II. Scheuchzeria.

1. Ls. few alt. semi-cylind. with a pore at tip, and brown turgid sheaths—Scape with term. rac. of about 5 fls.—Nearly extinct.

## Gen. III. Potamogeton.

## SEC. I.—LS. ALT. UPPER ONES FLOATING—STIP. FREE.

## A. Submerged leaves stalked.

1. Ls. all coriac., ellip. (2-6 in.) petiole jointed below the limb—Lr. ls. lin. or o.—Fr. ( $\frac{1}{8}$  in.) keeled on back when dry.  
 $1 \times 11 = P. fluitans$  Roth. has the blade of floating ls. gradually merging into petiole.  
 $1 \times 10 = P. crassifolius$  Fryer—Cambridgeshire Fens.
2. Upper ls. coriac. ellip. (2-5 in.) petiole not jointed—Lr. ls. lin. lanc. memb.—Fr. sm. ( $\frac{1}{10}$  in.) rounded when dry.  
*b. Floating ls. sub-coriac.—Submerged, very long.*  
*c. Floating ls. few, sub-coriac. subm. ls. strongly net-veined—Shetland.*  
*d. Coriac. ls. only growing in damp heathy places; is only a state.*
3. Fl. ls. (4-6 in.) coriac. blade grad. merging into petiole, ellip. lanc. long-stalked, strongly and beautifully retic. throughout—Fr. broadly obov. acutely keeled, keel tubercled with conspic. angles at base—Submerged ls. long clear green.
4. Ls. all membran. ellip., pellucid, beautifully netted—Fr. minute—Stip. short broad obt.  
 $4 \times 10 = P. Billupsii$  Fryer—Very rare—Camb. and Huntingdon Fen—Upper ls. coriac.

## B. Submerged ls. sess.

5. Ls. sub-coriac. longer than the stalks, lr. submerged, translucent, tinged with red—Lanc. many-nerved, ent.  
*b. A deep-water form—Perthshire.*  
*c. Found in the Basingstoke canal at Odiham*  
 $5 \times 8$ . A rare hybrid reported from 2 Irish and 1 Brit. county.  
 $5 \times 12$ . *P. Griffithii* Benn.—Subm. ls. strap-shaped, wavy, somewhat hooded pellucid 9-16 veins—Fl. ls. sub-coriac. ob-lanc. blunt, long-stalked—Llyn an Afon, Carnarv.—Mr. Fryer considers it a hybrid of sp. 2.
6. Fl. ls. sub-coriac. ellip.-lanc.—Subm. ls. lin. lanc. ent. acute, with chain-like network, grassy gr.—Anglesey, Cambr.—Mr. Fryer thinks it is a hybrid  $8 \times 18$ .  
*b. Co. Clare and Galway—Young ls. reddish.*
7. Fl. ls. sub-coriac. lanc. long-stalked—Subm. ls. lin. (sometimes 2 ft. long) with many parallel veins next midrib—In the River Maam, Galway.
8. Fl. ls. coriac. ellip. stalked—Subm. ls. lanc., narrowed at both ends, sess. minutely dentic. and apic. wavy—Pedun. thickened upwards.  
*b. Orkneys.*  
*c. = P. Lonchitis and P. salicifolius of Brit. authors—Rare—2 Brit. and 5 Irish counties—Subm. ls. alt. long, straight strap-shaped, 7-9 ribbed. (A hybrid  $8 \times 11 = P. Tiselii$  Richt. is also recorded from Ireland.)*  
 $8 \times 13$ . *P. nitens* Web.—Fl. ls. coriac., ellip. stalked, subm. ls. lanc., rounded below, half clasping, recurved undulate shining—Much branched.  
 (Several varieties of this have been described.)  
 $8$  bis. Flo. ls. obov.—Lower ls. spath., sess., or some alternately stalked.  
 Prob.  $8 \times 10 = ? P. spathiformis$  Tuck.



ORD. LXXXIX.—NAIADACEÆ (*continued*).

| Botanical Name.   | Common Name.             | Soil<br>or<br>Situation.     | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|------------------------------|-----------|--|
| <b>Gen. III. Potamogeton L.</b><br>( <i>continued</i> ).                      |                          |                              |           |  |
| 9. <i>P. falcatus</i> <i>Fryer</i> . . .                                      | . . . . .                | Fen ditches,<br>Hunts. V. R. | Fl.       | P. 7-8                                   |
| 10. <i>P. angustifolius</i> <i>Presl</i> .<br>( <i>P. Zizii</i> <i>Koch</i> ) | . . . . .                | Lakes, etc., L.              | Fl.       | P. 7-8                                   |
| × <i>perfoliatus</i> . . . . .  | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| × <i>gramineus</i> . . . . .  | . . . . .                | Cambridge Fen.<br>V. R.      | . . . . . | . . . . .                                |
| SEC. II.  |                          |                              |           |  |
| A.  |                          |                              |           |  |
| 11. <i>P. lucens</i> <i>L.</i> . . . . .                                      | <i>Shining P.</i> . . .  | Rivers . . . .               | Fl.       | P. 6-7                                   |
| <i>b. acuminatus</i> <i>Schum.</i> . .  | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| × <i>perfoliatus</i> = ( <i>P. de-</i><br><i>cepiens</i> <i>Nolte</i> )       | . . . . .                | Str. V. R. . . .             | . . . . . | . . . . .                                |
| 12. <i>P. prælongus</i> <i>Wulf.</i> . .                                      | . . . . .                | Rivers and lakes             | Fl.       | P. 6-8                                   |
| 13. <i>P. perfoliatus</i> <i>L.</i> . . . .                                   | <i>Perfoliate P.</i> . . | Rivers, etc. . .             | Fl.       | P. 6-7                                   |
| <i>b. lanceolatus</i> <i>Blytt</i> . . .                                      | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| 14. <i>P. crispus</i> <i>L.</i> . . . . .                                     | <i>Curly P.</i> . . . .  | Ponds . . . . .              | Fl.       | P. 6-7                                   |
| <i>b. serratus</i> <i>Huds.</i> . . . .                                       | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| × <i>perfoliatus</i> . . . . .  | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| × <i>obtusifolius</i> . . . . .   | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| × <i>Friesii</i> . . . . .  | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| B.  |                          |                              |           |  |
| 15. <i>P. compressus</i> <i>L.</i> . . . .                                    | . . . . .                | Streams . . . .              | Fl.       | P. 7-8                                   |
| ( <i>P. zosterifolius</i> <i>Schum.</i> )                                     |                          |                              |           |  |
| 16. <i>P. acutifolius</i> <i>Link</i> . . .                                   | . . . . .                | Fen ditches. R.              | Fl.       | P. 6-8                                   |
| 17. <i>P. obtusifolius</i> <i>M. &amp; K.</i>                                 | <i>Obtuse-leaved P.</i>  | Ponds, etc. . . .            | Fl.       | P. 7-8                                   |
| 18. <i>P. pusillus</i> <i>L.</i> . . . . .                                    | <i>Small P.</i> . . . .  | Ponds, etc. . . .            | Fl.       | P. 6-8                                   |
| <i>b. tenuissimus</i> <i>M. &amp; K.</i>                                      | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| <i>c. rigidus</i> <i>Benn.</i> . . . .  | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| <i>d. Sturrockii</i> <i>Benn.</i> . . .                                       | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| <i>e. Berchtoldi</i> ( <i>Fieber</i> ) . .                                    | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| <i>f. Friesii</i> ( <i>Rupr.</i> ) . . . .                                    | . . . . .                | . . . . .                    | . . . . . | . . . . .                                |
| 19. <i>P. rutilus</i> <i>Wolff</i> . . . .                                    | . . . . .                | Lakes, V. R. . .             | Fl.       | P. 7-8                                   |
| 20. <i>P. trichoides</i> <i>C. &amp; S.</i> . .                               | <i>Hair-like P.</i> . .  | Ditches. R. . . .            | Fl.       | P. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Potamogeton* (*continued*).

9. Fl. ls. stalked, ellip. mucro.—Subm. ls. ellip. strap-shaped, often not quite symmetrical, upper amplex. marg. ent. slightly undulated—Fr. sm., rhomb. ov., acutely keeled with distinct lateral ridges (? *P. gram.* × *nitens*).
10. Much branched—Fl. ls. obov. or obl. sub-coriac., subm. ls. narr. lanc.-obl. cuspidate, narrowed downwards, wavy nr. end—Stip. long, broad—Ped. very long.
- 10 × 13. *P. involutus* Fryer—Hunts, Northants.
- 10 × 8. *P. coriaceus* Fryer—Upper ls. coriac. like 8, but peti. shorter than blade.

## SEC. II.—LS. ALL SUBMERGED.

A. *Ls. alt. ov. or obl.*—*Stip. free.*

11. St. stout, Ls. stalked, ellip. lanc. pellucid—Stip. winged—Spike cyl., pedunc. swelling upward.
- b. *Ls. with mid rib forming a long prom. point.*
- 11 × 13. *P. decipiens* Nolte—*Ls. pelluc. obl. rounded below, blunt, not hooded; marg. ent. Of this var. affinis, var. salicifolius (Wye), ls. semi-amplex., and var. upsaliensis (Perth) have been recorded, and a hybrid P. salignus, Fryer, from Devon.*
12. Ls. elong.-obl., semi-amplex., concave at tip—Stip. not winged—Pedunc. long.

(*Hybrids of 12 × 2 (McVicarii Benn.), 12 × 11 (Babingtonii Benn.), and 12 × 14 (undulatus Wulf.) have been recorded.*)

13. St. round, stout—Ls. cord. ov. amplex., pellucid—Stip. sm. subac.
- b. *Ls. narrower lanc.*
14. St. flattened—Ls. obl. obt. wavy—Fr. with long beak, base of keel with long tooth—Ped. tapering upwards.
- b. *Margins of ls. flat.*
- 14 × 13. *P. Cooperi* Fryer—Canal, Leicester.
- 14 × 17. *P. Bennettii* Fryer—Stirling, Armagh.
- 14 × 18 f. *P. Lintoni* Fryer—Canal, Derbyshire.
- B. *Ls. alt. lin.*—*Stip. free.*
15. St. compress., winged—Ls.  $\frac{1}{2}$ -amplex. lin. (4-10 in.) abrupt. acum., 3 (rarely 5) nerved—Ped. much longer than spike—Spike cyl.
16. St. compress.—Ls.  $\frac{1}{2}$ -amplex. lin. (2-6 in.) 3-nerved, finely acum.—Ped. rarely equalling short ( $\frac{1}{2}$  in.) spike.
17. St. slender, compressed—Ls. (2-6 in.) sess. lin. sub-ac. or obt., 3-nerved, dark gr.—Ped. much shorter than ls.—Spike sm., ovoid.
18. St. fili. cyl.—Ls.  $\frac{1}{2}$  amplex. nar. lin., 1-3 nerved, acute.
- b. *Ls. smaller, acum., more spreading, 1 nerved.*
- c. *Rigid, fragile, stip. long, spike  $\frac{1}{2}$  in.—Orkney.*
- d. *St. fili. ls. (2-3 in.), sub-obt., 3-5 nerved, bright gr. pelluc., pedun. very slender, 2-4 in.—Forfar and Perth.*
- e. *Ls. shorter and broader—Fr. thicker, more distinctly warty.*
- f. *St. comp., ls. often fascicled, broader, 5 (rarely 7) nerved—Ped. 1-2 in., spikes ( $\frac{1}{2}$ – $\frac{3}{4}$  in.) interrupted, beak shorter.*
19. St. slend. compres.—Ls. lin. quite obt., the upper with long, acum. points—Slip long, with long, tapering point—Fr. obt. ellip., with obsc. keel inner edge nearly straight.
20. St. sub-terete, ls. sub-setac. 1 veined, finely pointed—Fr. obliq. ov., keeled, straight inner edge, with a tooth near base.

ORD. LXXXIX.—NAIADACEÆ (*continued*).

| Botanical Name.   | Common Name.                                 | Soil<br>or<br>Situation. | Growth. | Duration<br>and<br>time of<br>flowering. |
|---|--|--------------------------|---------|--|
| <b>Gen. III. Potamogeton</b><br>( <i>continued</i> ).<br>C.   |  |                          |         |  |
| 21. <i>P. interruptus</i> Kit. . . .<br>( <i>P. flabellatus</i> Bab.)                                     | . . . .                                      | Streams, etc. .          | Fl.     | P. 7-8                                   |
| <i>b. scoparius</i> (Fryer) . . .   | . . . .                                      | . . . .                  | Fl.     | P. 7-8                                   |
| 22. <i>P. pectinatus</i> L. . . .   | <i>Fennel-leaved P.</i>                      | Streams, etc. .          | Fl.     | P. 7-8                                   |
| D.  |  |                          |         |  |
| 23. <i>P. marinus</i> L. . . .<br>( <i>P. filiformis</i> Pers.)   | <i>Slender P.</i> . .                        | Lakes. V. R. .           | Fl.     | P. 7-9                                   |
| 24. <i>P. densus</i> L. . . .   | <i>Opposite-leaved P.</i>                    | Shall. str. . .          | Fl.     | P. 7-9                                   |
| Mr. Alfred Fryer's "British Pondweeds" should be consulted by those wishing to study this critical genus. |  |                          |         |  |
| <b>Gen. IV. Ruppia</b> L.   |  |                          |         |  |
| 1. <i>R. maritima</i> L. . . .  | <i>Tassel Pond Weed</i>                      | Salt water<br>ditches    | Fl.     | P. 7-8                                   |
| <i>b. rostellata</i> (Koch) . . .   | . . . .                                      | . . . .                  | . . .   | . . .                                    |
| <i>c. nana</i> (Syme) . . . .   | . . . .                                      | . . . .                  | . . .   | . . .                                    |
| <b>Gen. V. Zannichellia</b> L.  |  |                          |         |  |
| 1. <i>Z. palustris</i> L. . . .   | <i>Horned Pond-weed</i>                      | Ponds and str.           | Fl.     | A. 5-8                                   |
| <i>b. major</i> Koch . . . .  | . . . .                                      | . . . .                  | . . .   | . . .                                    |
| <i>c. repens</i> Boenn. . . .   | . . . .                                      | Shal. water .            | . . .   | . . .                                    |
| 2. <i>Z. maritima</i> Nolte . . .   | . . . .                                      | Brackish water           | Fl.     | A. 5-8                                   |
| 3. <i>Z. polycarpa</i> Nolte . . .  | . . . .                                      | Brackish water.<br>R.    | Fl.     | A. 5-8                                   |
| <i>b. tenuissima</i> Fries . . .  | . . . .                                      | . . . .                  | . . .   | . . .                                    |
| <b>Gen. VI. Zostera</b> L.  |  |                          |         |  |
| 1. <i>Z. marina</i> L. . . .  | <i>Grasswrack.</i><br><i>Broad-leaved G.</i> | Salt water . .           | Fl.     | P. 6-8                                   |
| <i>b. angustifolia</i> Horn. . .  | . . . .                                      | . . . .                  | Fl.     | P. 4-8                                   |
| 2. <i>Z. nana</i> Roth. . . .   | . . . .                                      | Salt water L. .          | Fl.     | P. 4-8                                   |
| <b>Gen. VII. Naias</b> L.   |  |                          |         |  |
| 1. <i>N. marina</i> L. . . .  | . . . .                                      | Broads. V. R.<br>Norfolk | Fl.     | P. 7-8                                   |
| 2. <i>N. flexilis</i> R. & S. . . .   | . . . .                                      | Lakes. L. . .            | Fl.     | P. 8-9                                   |
| *3. <i>N. graminea</i> Del. . . .   | . . . .                                      | Canal. R. . .            | Fl.     | A. 7-9                                   |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Potamogeton* (*continued*).

*C. Ls. alt. lin.—Stip. adnate with leaf-base into a sheath.*

21. Lower ls. broadly lin., flat, 3-5 veined—Fr. broadly  $\frac{1}{2}$ -obov., inner edges nearly straight—Stem long, branched, wavy—Nut with prom. keel.

*b. A slender maritime form with setaceous ls.*

22. St. branched, forming linear masses—Ls. formed of 2 interrupted tubes, narr. lin., upper setac.—Fr. broadly  $\frac{1}{2}$  obov., inner edge rather convex, nut with 2 lateral ridges but (usually) no keel.

*P. vaginatus Turc.* is a var. of this from Shetland. Several other varieties have been named.

23. St. fili., branches short—Ls. capill. 1 nerved—Ped. longer than ls., very slender—Fl. in distant whorls.

*D. Ls. opp., stip. o.*

24. Ls. all sub-opposite, ov. cord. serr. translucent—St. slend. brittle—Spike short, few fld.

Gen. IV. *Ruppia*

1. St. fili. much branched—Ls. lin.—Fl. on spadix arising from ls. sheath, sheath inflated—Pedun. long, spirally twisted—Anth. cell. obl.

*b. Sheath sm.—Ls. narrower—Ped. short flexuous—Anth. cell. sub-glob.*

*c. As b, but has creeping stems buried in mud, and very short ped.—Orkneys, etc.*

Gen. V. *Zannichellia*.

1. Ls. opp. fili.—Fl. axill. sess. achenes curved, sessile.

*b. Ls. larger broader—Pl. stouter.*

*c. St. creeping in sand or mud—Pl. sm. ls. short.*

2. Ls. opp. fili.—Achenes curved, distinctly pedunculate—Sty. larger.

3. Ls. opp. fili.—Achenes 5-6 sub-sessile.

*b. Pl. very slender.*

Gen. VI. *Zostera*.

1. Ls. (1-3 ft.) lin. 3-7 veined—Spadix many fld. without bands.

*b. Ls. narrower (1-3 veined).*

2. Ls. (6-8 in.) lin. 1-3 veined—Spadix few flowered, with clasping bands.

Gen. VII. *Naias*.

1. Ls. strongly spinular serr.—Ls. opp. 3 nate ( $\frac{1}{2}$ -2 in. long) sheath ent.—Dioecious.

2. Ls. lin. minutely dentic. opp. or 3 in whorl—Fl. axill. sol.—Sheath cili.—Monoecious.

- \*3. St. branched throughout—Ls. distinctly auricled—Male fl. naked—Monoecious. (Reddish, Lanc.; introduced with Egyptian cotton.)

## ORD. XC.—ERIOCAULONACEÆ.

| Botanical Name.                    | Common Name.           | Soil<br>or<br>Situation. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|------------------------------------|------------------------|--------------------------|----------|--|
| <b>Gen. I. Eriocaulon L.</b>       |                        |                          |          |  |
| 1. <i>E. septangulare L.</i> . . . | <i>Pipe-wort</i> . . . | Shal. lakes. R.          | 4-24 in. | P. 7-8                                   |

## ORD. XCI.—CYPERACEÆ.

|   |                          |                         |           |        |
|---|--------------------------|-------------------------|-----------|--------|
| <b>Gen. I. Cyperus L.</b>                       |                          |                         |           |        |
| 1. <i>C. longus L.</i> . . . . .                | <i>Galingale</i> . . .   | Marshes. S. of<br>E. R. | 2-3 ft.   | P. 8-9 |
| 2. <i>C. fuscus L.</i> . . . . .                | <i>Brown Cyperus</i>     | Shal. water.<br>V. R.   | 2-8 in.   | A. 8-9 |
| <b>Gen. II. Eleocharis Br.</b>                  | <i>Club Rush.</i>        |                         |           |        |
| 1. <i>E. palustris Br.</i> . . . .              | <i>Marsh C.</i> . . .    | Wet pl. . . .           | 6-12 in.  | P. 6-7 |
| <i>b. major Koch.</i> . . . .                   | . . . . .                | . . . . .               | 12-18 in. | . . .  |
| <i>c. uniglumis (Sch.)</i> . . .                | . . . . .                | . . . . .               | . . .     | . . .  |
| <i>d. Watsoni (Bab.)</i> . . .                  | . . . . .                | V. R. . . . .           | . . .     | . . .  |
| 2. <i>E. multicaulis Sm.</i> . . .              | <i>Many-st. C.</i> . .   | Marshes . . .           | 4-12 in.  | P. 6-7 |
| 3. <i>E. acicularis Br.</i> . . . .             | <i>Smallest C.</i> . .   | Wet pl. . . .           | 2-6 in.   | P. 6-8 |
| <i>b. longicaulis Wats.</i> . . .               | . . . . .                | Fen ditches, etc.       | 6-12 in.  | . . .  |
| <b>Gen. III. Scirpus L.</b>                     | <i>Club Rush.</i>        |                         |           |        |
| 1. <i>S. sylvaticus L.</i> . . . .              | <i>Wood C.</i> . . . .   | Marshes . . .           | 1-3 ft.   | P. 7-8 |
| <i>b. dissitiflorus Sond.</i> . . .             | . . . . .                | . . . . .               | . . .     | . . .  |
| 2. <i>S. maritimus L.</i> . . . .               | . . . . .                | Brackish water          | 1-3 ft.   | P. 7-8 |
| <i>b. macrotachys (Willd.)</i> . .              | . . . . .                | . . . . .               | . . .     | . . .  |
| <i>c. monostachys Sond.</i> . . .               | . . . . .                | . . . . .               | . . .     | . . .  |
| <i>d. compactus Krock.</i> . . .                | . . . . .                | . . . . .               | . . .     | . . .  |
| * *   |                          |                         |           |        |
| 3. <i>S. laoustris L.</i> . . . .               | <i>Bulrush</i> . . . .   | Streams . . .           | 1-8 ft.   | P. 7-8 |
| <i>b. Tabernæmontani</i><br>(Gmel.)             | . . . . .                | Brackish ditches        | 1-3 ft.   | P. 7-9 |
| × <i>triqueter</i> = <i>S. carinatus</i><br>Sm. | . . . . .                | Tidal strs. . .         | . . .     | . . .  |
| 4. <i>S. triqueter L.</i> . . . .               | <i>Triang. Bulrush</i>   | Tidal strs. . .         | 1-4 ft.   | P. 7-8 |
| 5. <i>S. americanus Pers.</i> . . .             | <i>Jersey C.</i> . . . . | Pond side,<br>Jersey    | 6-18 in.  | P. 6-7 |
| ( <i>S. pungens Vahl.</i> )                     |                          |                         |           |        |

## ORD. XC.—ERIOCAULONACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Eriocaulon.**

1. Ls. subu. glab. transluc. septate—Scape long, 6-8 furrowed, twisted—Fl. in compact scaly head ( $\frac{1}{4}$ – $\frac{3}{4}$  in.)—W. of Ireland and Skye.

## ORD. XCI.—CYPERACEÆ.

**Gen. I. Cyperus.**

1. Root creeping—Peren.—Tall, cyme umbell., glumes erect, red-br.
2. Root tufted—Annual—Short, spikelets corymbose or capit.—Glumes event. spreading, gr. or pale brown, growing in shallow water in ditches or pond margins—Very local.

**Gen. II. Eleocharis.**

1. Root cr. with many tufts—St. round, with membr. transversely trunc. sheath—Fr. plano-conv.—Term. gl. acute—Stig. 2—Lr. gl.  $\frac{1}{2}$  surrounding spikelet.
  - b. Tall, stout, stem thick.*
  - c. Lower gl. br., edges narrow, pale, almost surrounding spikelet.*
  - d. Smaller, more rigid, gl. dark br.—Nut punctate—Argyll, Wicklow.*
2. Rootstock short with 1 tuft of ls. and stem—St. round with obliquely trunc. acu. l'fless. sh.—Fr. obl.-ov., 3 sided, tipped with sty.-base—Term. gl. obt.—Stig. 3.
3. Root with fili. stolons—St. setac. quadr. with leafless sheaths—Spikelets minute—Stig. 3—Gl. obt.—Fr. obl.-ov., ribbed and transversely striate—Sometimes wholly submerged and barren on clayey bottom of canals.
  - b. Plant submerged, stem very long and slender.*

**Gen. III. Scirpus.**

\* Stem leafy.

1. Ls. flat, cyme effuse, branches many divaricate, spikelets sm. ov. gr.—Gl. ent. obl.
  - b. Spikelets mostly sol. and usually stalked.*
2. Ls. channelled—Cyme corymb.—Spikelets few cylind., red-br.—Gl. acutely 2 lobed, awned.
  - b. Spikelets ( $1\frac{1}{2}$  in. long)—Camb. fen.*
  - c. Spikelet sol.*
  - d. Spikelets in a head, all sess.*

\* \* Stem leafless.

3. St. terete—Ls. often flo.—Cymes term., branched longer than bracts—Gl. notched, mucro., fringed, glab.—Style 3—Fr. trigon.
  - b. St. glauc.—Flo. ls. absent—Gl. rough—Stig. 2—Fr. round, obl. compress.*
- 3 × 4. St. obscurely triang. above—Gl. slightly asperous—Ls. broad, overlapping cyme.
4. St. acutely triang.—Spike ov. clustered—Gl. glab., notched, mucro.—Fr. obtusely lobed—Sheath ending in a short broad triquetrous leaf.
5. St. acutely triang.—Spikes few sess.—Gl. bifid. with acu. lobes—Sheath ending in long narrow keeled ls.—Lr. bract very long and rigid—Spike sess.



ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.   | Common Name.                   | Soil<br>or<br>Situation.      | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------------|-------------------------------|-----------|--|
| <b>Gen. III. Scirpus L.</b><br>( <i>continued</i> ).                                |                                |                               |           |  |
| 6. <i>S. cæspitosus</i> L. . . .  | <i>Deer's Grass</i> .          | Moors . . . .                 | 6-12 in.  | P. 6-8                                   |
| 7. <i>S. pauciflorus</i> <i>Lightf.</i> .   | <i>Few-fl'd. Club<br/>Rush</i> | Marshes . . . .               | 4-8 in.   | P. 6-8                                   |
| 8. <i>S. nanus</i> <i>Spreng.</i> . . . .   | <i>Small C.</i> . . . .        | Estuarine mud.<br>R.          | 1-2 in.   | A. 7-8                                   |
| ( <i>S. parvulus</i> R. & S.)   |                                |                               |           |  |
| 9. <i>S. Holoschoenus</i> L. . . .  | . . . .                        | Sand. sh. V. R.<br>Dev., Som. | 3-4 ft.   | P. 8-10                                  |
| 10. <i>S. setaceus</i> L. . . .   | <i>Bristle C.</i> . . . .      | Dp. gravelly pl.              | 1-4 in.   | P. 7-8                                   |
| 11. <i>S. filiformis</i> <i>Savi</i> . . . .  | <i>Slender C.</i> . . . .      | Dp. pl. S. W.<br>of E. L.     | 2-8 in.   | P. 7-8                                   |
| ( <i>S. Savii</i> S. & M.)  |                                |                               |           |  |
| <i>b. monostachys</i> C. & M.   |                                |                               |           |  |
| 12. <i>S. fluitans</i> L. . . . .   | <i>Floating C.</i> . . . .     | Peaty pools . .               | Flo.      | P. 6-8                                   |
| * * * <i>Blysmus</i> .  |                                |                               |           |  |
| 13. <i>S. compressus</i> <i>Pers.</i> . .   | <i>Compressed C.</i> . .       | Marshes. L. . .               | 4-12 in.  | P. 7-9                                   |
| 14. <i>S. rufus</i> <i>Schrad.</i> . . . .  | <i>Seaside C.</i> . . . .      | Salt ma. . . . .              | 3-12 in.  | P. 7-9                                   |
| <b>Gen. IV. Eriophorum L.</b><br>*  |                                |                               |           |  |
|   | <i>Cotton-grass.</i>           |                               |           |  |
| 1. <i>E. paniculatum</i> <i>Druce</i><br>( <i>E. latifolium</i> <i>Hoppe</i> )      | <i>Broad-leaved C.</i>         | Marshes . . . .               | 12-18 in. | P. 6-7                                   |
| 2. <i>E. angustifolium</i> <i>Roth.</i><br>( <i>E. polystachion</i> L. <i>pp.</i> ) | <i>Narr.-leaved C.</i>         | Bogs . . . . .                | 6-24 in.  | P. 6-8                                   |
| <i>b. longifolium</i> <i>Hoppe</i><br>( <i>elatus</i> <i>Koch</i> )                 | . . . . .                      | . . . . .                     | . . . . . | . . . . .                                |
| <i>c. alpinum</i> ( <i>Gaud.</i> )<br>( <i>minus</i> <i>Koch</i> )                  | . . . . .                      | Mt. bogs . . . .              | . . . . . | . . . . .                                |
| <i>d. triquetrum</i> ( <i>Fr.</i> ) . . . .   | . . . . .                      | Cornwall . . . .              | . . . . . | P. 7-8                                   |
| 3. <i>E. gracile</i> <i>Roth</i> . . . .  | <i>Slender C.</i> . . . .      | Bogs. V. R. . . .             | 1-2 ft.   | P. 6-7                                   |
| * *   |                                |                               |           |  |
| 4. <i>E. vaginatum</i> L. . . . .   | <i>Harestail C.</i> . . . .    | Bogs . . . . .                | 6-10 in.  | P. 4-6                                   |
| [5. <i>E. alpinum</i> L. . . . .  | <i>Alpine C.</i> . . . .       | Marshes . . . . .             | 4-8 in.   | P. 6-7                                   |
| <b>Gen. V Rynchospora Vahl</b>  |                                |                               |           |  |
|   | <i>Beak-rush.</i>              |                               |           |  |
| 1. <i>R. fusca</i> <i>Ait.</i> . . . .  | <i>Brown B.</i> . . . .        | Spongy bogs . . .             | 6-12 in.  | P. 6-7                                   |
| 2. <i>R. alba</i> <i>Vahl.</i> . . . .  | <i>White B.</i> . . . .        | Bogs . . . . .                | 6-18 in.  | P. 6-7                                   |
| <b>Gen. VI. Schoenus L.</b>   |                                |                               |           |  |
|   | <i>Bog-rush.</i>               |                               |           |  |
| 1. <i>S. nigricans</i> L. . . . .   | <i>Black B.</i> . . . .        | Turfy bogs . . . .            | 6-24 in.  | P. 6-7                                   |
| <i>b. nanus</i> <i>Lange</i> . . . . .  | . . . . .                      | . . . . .                     | . . . . . | . . . . .                                |
| 2. <i>S. ferrugineus</i> L. . . . .   | <i>Brown B.</i> . . . .        | Bogs . . . . .                | 4-8 in.   | P. 6-7                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. III. *Scirpus* (*continued*).

6. Root densely tufted, wiry—St. round, with leafless sheaths and short subu. ls. below—Stig. 3 long.—Fr. obl.-obov. acum.—Two lower gl. awned, longer than spikelet.
  7. Rootst. cr., round, striate with narr. leafless sheaths—Upper sheath trunc.—Fr. striate obov. 3-gonous—Lr. gl. obt. shorter than spikelet—Bristles shorter than nut.
  8. Very small—Root fili. with capill. stoles ending in ov. subu. tubers—St. round with 1 leafless sheath—Ls. fili. rad.
  9. St. round, tufted—Ls. channelled—Fr. sub-globose.
  10. Spikes 1-3 lateral sess.—St. fili.—Lr. bract very long—Fr. obov. transvers. striate—Bristles 0.
  11. Spikes 1-3 sub-term.—St. fili.—Fr. sub-trig., not striate—Bristles 0.
- b. Spikelet small sol.—Bract short.*
12. St. flo. much branched, leafy—Spikelet sol. term. ovate—Stig. 2.
  - \* \* \* *Spikelets sm. in a term. erect, bracteate, distichous spike—Gl. few.*
  13. St. triang.—Ls. lin. flat, rough—Spikelets 6-8 fld., longer than bract.
  14. St. round—Ls.  $\frac{1}{2}$  terete, channelled, smooth—Spikelets 2-4 fld., usually not longer than bract.

Gen. IV. *Eriophorum*.\* *Spikelets several, lateral, bracteate.*

1. St. rigid, tufted, triquetrous above, hollow—Ls. flat—Ped. scabrid.—Gl. lanc.
  2. St. wiry, not tufted, solid—Ls. flat, channelled nr. base.—Fr. ped. glab.—Gl. ov.
- b. St. tall, ls. long.*

*c. St. and ls. slender, spike sub-sol. sess.**d. Slender, small, spikes  $\frac{1}{2}$  size of type, sess. or very shortly stalked.*

3. St. slender, ls. triquet., narrow—Ped. downy—Fr. obov. obt.
- \* \* *Spikelet sol. term., ebracteate.*
4. St. triang. above, round below—Spikelet ov., many flowered—Bristles many, straight.
5. St. triang.—Spikelet obl., few flowered—Bristles 4-6 crisped—Rootstock cr.—[Forfar, extinct.]

Gen. V. *Rynchospora*.

1. Spikelet in an oval head, much shorter than outer bract, dk. br.—Sta. 3.
2. Spikelet in a compact head, as long as outer bract, white or pale br.—Sta. 2.

Gen. VI. *Schoenus*.

1. St. naked, round, in dense, hard tufts—Spikelets 5-10 in a term., round head, shorter than the lower bract.
- b. Plant very sm.*
2. St. grooved—Spikelet lat. 1-3 slender about equall. the erect sheathing bract—Very rare—Loch Tummel, Perth.

ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil or Situation.             | Growth.  | Duration and time of flowering. |
|--|--------------------------|--------------------------------|----------|---------------------------------|
| <b>Gen. VII. Cladium P.Br.</b>   |                          |                                |          |                                 |
| 1. <i>C. Mariscus Br.</i> . . .<br>( <i>C. germanicum</i> )  | . . . .                  | Marshes. L. .                  | 3-6 ft.  | P. 7-8                          |
| <b>Gen. VIII. Kobresia Willd</b>   |                          |                                |          |                                 |
| 1. <i>K. bipartita Dal. Tor.</i><br>( <i>K. caricina Willd.</i> )                                    | . . . .                  | Alp. marshes.<br>V. L.         | 4-8 in.  | P. 8-9                          |
| <b>Gen. IX. Carex L.</b>   |                          |                                |          |                                 |
| <i>Sedge.</i>  |                          |                                |          |                                 |
| i. <i>Heterostachyæ</i> —One or more terminal spikes wholly or mostly male, others female, axillary. |                          |                                |          |                                 |
| (1)  |                          |                                |          |                                 |
| 1. <i>C. Pseudo-cyperus L.</i>   | <i>Cyperus S.</i> . .    | Marg. of stagnt.<br>water. L.  | 1-3 ft.  | P. 6-7                          |
| (2)  |                          |                                |          |                                 |
| 2. <i>C. riparia Curt.</i> . . .   | <i>Great S.</i> . . .    | River margin .                 | 3-5 ft.  | P. 5-7                          |
| <i>b. humilis Uechtr.</i> . . .  |                          |                                |          |                                 |
| 3. <i>C. acutiformis Ehrh.</i> . . .<br>( <i>C. paludosa Good.</i> )                                 | <i>Common S.</i> . .     | Marg. of str. .                | 2-3 ft.  | P. 5-7                          |
| <i>b. spadicea (Roth)</i> . . .  | . . . .                  | . . . .                        | . . .    | . . .                           |
| 4. <i>C. vesicaria L.</i> . . .  | . . . .                  | Marshy pl. L..                 | 1-2 ft.  | P. 5-6                          |
| <i>b. dichroa And.</i> . . .   | . . . .                  | Mt. Perth. R.                  | 6-12 in. | . . .                           |
| <i>c. alpigena (Fr.)</i> . . .   | . . . .                  | . . . .                        | 6-12 in. | . . .                           |
| <i>d. Grahami (Boott)</i> .  | <i>Graham's S.</i> .     | Alp. bogs. V. R.               | 8-12 in. | . . .                           |
| 5. <i>C. saxatilis L.</i> . . .  | <i>Russet S.</i> . . .   | Dp. pl. on Sc.<br>mt. L.       | 4-10 in. | P. 5-6                          |
| 6. <i>C. inflata Huds.</i> . . .<br>( <i>C. ampullacea Good.</i><br><i>C. rostrata Stokes</i> )      | <i>Slender-beaked S.</i> | Bogs . . . .                   | 1-2 ft.  | P. 5-6                          |
| <i>b. robusta Druce</i> . . .<br>( <i>C. rhynchophysa Benn.</i><br>not of <i>Mey.</i> )              | . . . .                  | Lough Mullagh-<br>more         | 3-4 ft.  | . . .                           |
| <i>c. brunnesçens Druce</i> .  | . . . .                  | Alpine bogs .                  | 6-18 in. | . . .                           |
| <i>d. involuta Druce</i> . .   | . . . .                  | Hale and Con-<br>gleton mosses | 1-1½ ft. | . . .                           |
| (3)  |                          |                                |          |                                 |
| 7. <i>C. lasiocarpa Ehrh.</i> . .<br>(? <i>C. filiformis L.</i> )                                    | <i>Slender-leaved S.</i> | Bogs. L.. . .                  | 2-3 ft.  | P. 5-6                          |



ORD. XCI. —CYPERACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. VII. Cladium.**

1. St. leafy—Edges of ls. rough—Cymes term. and lat., much branched; spikelets capitate.

**Gen. VIII. Kobresia.**

1. St. densely tufted—Ls. wiry, grooved, shorter than st.—Spikelets aggregate—Lower spikelet with one fem. fl.—Teesdale, Perth.

**Gen. IX. Carex.**

(1) *Fr. not inflated—Stig. 3.*

1. Fertile spikelets (3–6) 2–3 in. dense, drooping on long stalks—Fr. obl. very attenu., ribbed; beak long—Gl. yell. gr.—Plant yell. gr.

(2) *Fr. glab.—Male spike several (except rarely in 4 and 5)—Bract leafy—Sheath 0.*

2. Fert. sp. cyl. acute—Fr. obl. ov. conv. on both sides—Gl. narr. marg. dk. br.—Ls. flat  $\frac{1}{2}$  in. brd. glauc.—Gl. of male sp. acute—Stig. 3.  
*b. A dwarf form with narrow ls.—Fem. spikes distant, narrow at base.*
3. Fert. sp. cyl. obt.—Fr. obl.-ov. compressed—Gl. dk. br.—Gl. of male sp. obt.—St. rough—Ls. broad, glauc.  
*b. Female glumes with long serr. awn.*

(*Hybrids of  $2 \times 3$ ,  $2 \times 4$ ,  $3 \times 4$ , and  $3 \times 6$  have been recorded.*)

4. Fert. spikelet cylin., distant—Fr. broadly ov. grad. narrowed into the beak—St. sharply angled, roughest near the top—Ls. flat—Fr. inflated—Stig. 3.  
*b. Plant smaller—Gl. dk. br.*  
*c. Stolon.—St. short rigid—Spike sub-sol.—Gl. lanc. ov.—Fr. broad ov. dk. br.*  
*d. Grahami—Male spike 1 or 2—Fr. br. obl. ov. inflated; midrib of gl. pale; beak shorter less cuspid. more slender—Stig. 2—V. R. Forfar, Perth.*

(*Hybrids  $4 \times 2$  and  $4 \times 6$  have been recorded.*)

5. Fert. spike 1–3 male 1, black or dk. br., roundish ov., lower stalked—Fr. ov. inflated, obscurely veined—Beak short, notched—Stig. 2.
6. Fert. spike cyl. dist.—Fr. sub-glob., suddenly narrowed into a long slend. beak pale yell. gr. inflated—St. smooth with obt. angl.—Ls. channelled glauc.—Stig. 3.  
*b. Ls. very broad—Plant robust—Male sp. 4–6—Fruit large—Mistaken for the true rhynchophysa—Probably utriculata Boott.*  
*c. Small neat plant—Spike compact—Fr. short beaked, brown.*  
*d. Ls. narrow, folded into  $\frac{1}{2}$  cylind.—Mid-rib of gl. apic., fr. narrow—Perhaps a hybrid of  $4 \times 6$ .*

(*A hybrid (C. Beckmanniana)  $6 \times 2$  has been found.*)

(3) *Fr. hairy—Male spike two or more.*

7. Fert. spikelet (3–4) obt. sess.—Lr. bracts slightly sheathed—Ls. slender channelled, with filamentous sheath below—Fr. ov.-obl., narrowing into a short bifid beak—Stig. 3.

ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.                       | Common Name.                | Soil<br>or<br>Situation.                        | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---------------------------------------|-----------------------------|---|----------|--|
| <b>Gen. IX. <i>Carex</i> L.</b>       |                             |   |          |  |
| <i>(continued)</i> .                  |                             |   |          |  |
| 8. <i>C. hirta</i> L. . . . .         | <i>Hairy S.</i> . . . .     | Grassy pl. . . .                                | 1-2 ft.  | P. 5-6                                   |
| <i>b. ebracteata</i> Syme . . . .     | . . . . .                   | . . . . .                                       | . . . .  | . . . .                                  |
| <i>c. spinosa</i> Mort. . . . .       | . . . . .                   | . . . . .                                       | . . . .  | . . . .                                  |
| <i>d. hirtiformis</i> Pers. . . . .   | . . . . .                   | . . . . .                                       | . . . .  | . . . .                                  |
| (4)                                   |                             |   |          |  |
| 9. <i>C. pendula</i> Huds. . . . .    | <i>Pendulous S.</i> . . . . | Dp. woods. L.                                   | 2-6 ft.  | P. 5-6                                   |
| 10. <i>C. sylvatica</i> Huds. . . . . | <i>Wood S.</i> . . . .      | Woods . . . .                                   | 1-3 ft.  | P. 5-6                                   |
| 11. <i>C. strigosa</i> Huds. . . . .  | . . . . .                   | Woods . . . .                                   | 1-2 ft.  | P. 5-6                                   |
| 12. <i>C. helodes</i> Link . . . . .  | <i>Smooth-stalked</i>       | Wet thick., etc.,                               | 1-3 ft.  | P. 5-7                                   |
| ( <i>C. lævigata</i> Sm.)             | <i>S.</i>                   | L.  |          |  |
| <i>b. gracilis</i> Druce . . . . .    | . . . . .                   | Salop . . . . .                                 | . . . .  | . . . .                                  |
| 13. <i>C. capillaris</i> L. . . . .   | <i>Capillary S.</i> . . . . | Mt. L. N. Brit.                                 | 4-12 in. | P. 6-7                                   |
| (5)                                   |                             |   |          |  |
| 14. <i>C. binervis</i> Sm. . . . .    | <i>Green-ribbed S.</i>      | Heath . . . .                                   | 1-3 ft.  | P. 6-7                                   |
| <i>b. nigrescens</i> Druce . . . . .  | . . . . .                   | Sc. mts. . . . .                                | 1-1½ ft. | P. 6-7                                   |
| <i>c. alpina</i> Drej. . . . .        | . . . . .                   | Wet pl. Sc. R.                                  | 1-1½ ft. | . . . .                                  |
| 15. <i>C. distans</i> L. . . . .      | <i>Distant S.</i> . . . .   | Marshes. L.                                     | 1-2 ft.  | P. 6-7                                   |
| 16. <i>C. punctata</i> Gaud. . . . .  | <i>Punctate S.</i> . . . .  | Chiefly maritime<br>Wet pl. S. of E.<br>& I. R. | 1-1½ ft. | P. 5-7                                   |
| 17. <i>C. fulva</i> Host. . . . .     | <i>Tawny S.</i> . . . .     | Marshes . . . .                                 | 1-1½ ft. | P. 5-7                                   |
| 18. <i>C. flava</i> L. . . . .        | <i>Yellow S.</i> . . . .    | Marshes, etc. . .                               | 3-18 in. | P. 5-7                                   |
| <i>b. pygmæa</i> And. . . . .         | . . . . .                   | Sc. mts. R. . . .                               | 2-4 in.  | 6-8                                      |
| <i>c. lepidocarpa</i> (Tausch)        | . . . . .                   | Bogs, etc. . . .                                | 6-12 in. | 5-7                                      |
| <i>d. ædocarpa</i> And. . . . .       | . . . . .                   | . . . . .                                       | 3-6 in.  | . . . .                                  |
| ( <i>minor</i> Towns.)                |                             |   |          |  |
| <i>e. argillacea</i> Towns. . . . .   | . . . . .                   | . . . . .                                       | . . . .  | . . . .                                  |
| × <i>fulva</i> = <i>C. xantho-</i>    | . . . . .                   | . . . . .                                       | 6-12 in. | . . . .                                  |
| <i>carpa</i> Dégl.                    |                             |   |          |  |
| 19. <i>C. Œderi</i> Retz . . . . .    | . . . . .                   | Wet pl. L. . . .                                | 2-4 in.  | P. 5-7                                   |
| <i>b. elatior</i> And. . . . .        | . . . . .                   | Fens . . . . .                                  | 6-12 in. | . . . .                                  |
| <i>c. subglobosa</i> Miel. . . . .    | . . . . .                   | Lough Neagh . .                                 | 4-6 in.  | . . . .                                  |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (*continued*).

8. Fert. spikelet (2-3) cylind. stalked—Lr. bract with long sheath—Ls. flat, hairy—Fr. tawny, ov.-obl., narrowing into a short deeply bifid beak—Stig. 3.  
*b. Crowded spikes—Ls. and gl. glab.—Bract without leafy lamina.*  
*c. Glume long and sharp.*  
*d. Ls. and gl. glab.*
- (4) *Fr. glab.—Male sp. sol. (or 1-3 in no. 9)—Bract leafy, sheath long—Stig. 3.*
9. Fert. spike (4-5) cylind., very long stalked, dense fld., gracefully pendulous—Bract sheathing—Fr. imbric. ellip. tumid, with short emarg. beak.
10. Fert. spike fili.; stalk  $\frac{1}{2}$  exserted—Fr. ellip. obscurely veined; beak bifid, long, smooth—Ls. flat ( $\frac{1}{3}$ – $\frac{1}{2}$  in.).
11. Ls. broad, flat ( $\frac{1}{5}$ – $\frac{1}{2}$  in.)—Fert. spike slender; stalk exserted—Fr. ob. lanc., veined narrowed at each end, beak obscure, obliquely truncate.
12. Fert. spike cylind. dist.; stalk exserted—Fr. ov. atten., striate; beak long with scab. edges—Ligule long—Fr. gr.  
*b. Ls. much narrower, fert. spike short—Fr. patent, smaller but more tumid—Salop.*
13. Fert. spike lax, few flowered, neat—Rt. tufted—Lr. bract sheathing and including sev. ped.—Beak rather long—Fl. pale yell. gr.
- (5) *Beak long, usually slender, often forked—Stig. 3.*
14. Fert. spike cylind. dist.—Stalks included in sheath—Fr. ov. with 2 gr. ribs on outer surf.; beak broad sm.—Ls. rigid, recurved flat.  
*b. Glumes dk. br., spikes shorter.*  
*c. Gl. dk. br. shortly cyl. long ped.—Fr. lanc. triquet. grad. narrowed into a cil.-serr. bifid beak—C. frigida Sadl.*
15. Fert. spike (3-4) obl. erect dist. upper stalk included in sheath of bract—Fr. ov. equally ribbed, smooth; beak narr., rough edged; gl. obl.
16. Fert. spike cyl., stalk slightly exserted—Fr. ov. tumid, pellucidly punctate; beak lin. sm.
17. Fert. spike, ov. obl. dist.; bract with long sheath; stalk exserted—Fr. broadly ov., ribbed; beak straight, rough edged—Gl. obt. or acu. not mucron., with scarious marg.
18. Fert. spike roundish ov., approx.—Bract long, leafy, with short sheath—Fr. ov. inflated, spread., ribbed, much larger than gl.; beak long, obliquely deflexed, scabrid, attenuated into a long beak.  
*b. Plant erect sm., spikes almost glob.—Gl. dk. br.*  
*c. Ls. narrow—Barren spike on long slender stalk, beak of fr. long, abruptly deflexed—Fr. narrowed into long beak.*  
*d. Pl. smaller—Fert. sp. usually distant—Fr. smaller, sub-orbic. more suddenly contracted into a nearly straight short beak.*  
*e. Ls. broad, as long or longer than stem—Male spike sess.—Fert. spike contiguous—Fr. sub-orbic., beak short straight.*
- 18 X 17. Stem tufted erect—Ls. yell. gr.
- (*Hybrids with lepidocarpa and Ederi are also recorded.*)
19. Fert. spike roundish ov. sub-sess, contig.—Fr. sub-glob. suddenly contracted into an erect narr. beak—Fr. much smaller and more numerous than in 18, with shorter and narrower based beak—Often on lake margins.  
*b. St. tall, longer than ls.—Spike obl. ov.—Fr. long beaked.*  
*c. St. round—Spike sm.—Fr. sm.; beak nearly entire.*



ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.   | Common Name.                      | Soil<br>or<br>Situation.                   | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|-----------------------------------|--|----------|--|
| <b>Gen. IX. <i>Carex</i> L.</b><br>( <i>continued</i> ).                        |                                   |  |          |  |
| 20. <i>C. extensa</i> Good. . . .   | <i>Long-bracted S.</i>            | Salt marsh . .                             | 4-18 in. | P. 6-7                                   |
| <i>b. pumila</i> And. (minor)   | . . . .                           | . . . .                                    | 3-6 in.  | . . .                                    |
| <i>c. latifolia</i> Boeck. . . .  | . . . .                           | Wigtown. . .                               | 9-12 in. | . . .                                    |
| 21. <i>C. depauperata</i> Good. .   | <i>Starved S.</i> . .             | Dry woods. R.                              | 1-2 ft.  | P. 5-6                                   |
| (6)   |                                   |  |          |  |
| 22. <i>C. digitata</i> L. . . .   | <i>Fingered S.</i> . .            | Calc. wood. W.<br>of E.                    | 6-10 in. | P. 5-6                                   |
| 23. <i>C. ornithopoda</i> Willd. .  | . . . .                           | Calc. cliffs. R.                           | 4-6      | P. 5-6                                   |
| 24. <i>C. humilis</i> Leyss. . . .  | <i>Dwarf Silvery</i><br><i>S.</i> | Grassy downs.<br>R. W. of E.               | 1-3 in.  | P. 5-6                                   |
| 25. <i>C. caryophyllea</i> Lat. . .   | <i>Vernal S.</i> . .              | Past. . . .                                | 3-10 in. | P. 4-5                                   |
| ( <i>C. præcox</i> Jacq.)   |                                   |  |          |  |
| 26. <i>C. ericetorum</i> Poll. . .  | <i>Heath S.</i> . .               | Dry pl. V. R.<br>E. of E.                  | 2-6 in.  | P. 5-6                                   |
| 27. <i>C. montana</i> L. . . .  | <i>Hill S.</i> . .                | Heaths and<br>woods. R.                    | 6-15 in. | P. 4-5                                   |
| 28. <i>C. tomentosa</i> L. . . .  | <i>Hairy-fruited S.</i>           | Wet mead. R.<br>Wilts., Gloster,<br>Surrey | 9-18 in. | P. 5-7                                   |
| 29. <i>C. pilulifera</i> L. . . .   | <i>Pill-headed S.</i> .           | Heaths . . .                               | 4-15 in. | P. 6-7                                   |
| <i>b. longibracteata</i> Lange  | . . . .                           | . . . .                                    | . . .    | . . .                                    |
| (7)   |                                   |  |          |  |
| 30. <i>C. diversicolor</i> Cr. . .  | <i>Glaucous S.</i> . .            | Grassy pl., etc.                           | 4-24 in. | P. 5-7                                   |
| ( <i>C. glauca</i> Scop.)   |                                   |  |          |  |
| <i>b. Micheliana</i> Druce . .  | . . . .                           | . . . .                                    | . . .    | . . .                                    |
| <i>c. stictocarpa</i> Druce . .   | . . . .                           | . . . .                                    | . . .    | . . .                                    |
| <i>d. erythrostachys</i> Druce  | . . . .                           | . . . .                                    | . . .    | . . .                                    |
| (An acuminate variety and a hybrid with <i>acutiformis</i> have been recorded.) |                                   |  |          |  |
| (8)   |                                   |  |          |  |
| 31. <i>C. pallescens</i> L. . . .   | <i>Pale S.</i> . . .              | Woods & shady<br>pl.                       | 9-18 in. | P. 6-8                                   |
| 32. <i>C. vaginata</i> Tausch . .   | <i>Sheathed S.</i> . .            | Sc. mts. . . .                             | 6-15 in. | P. 7-8                                   |
| 33. <i>C. panicea</i> L. . . .  | <i>Carnation S.</i> . .           | Marshes . . .                              | 9-24 in. | P. 6-8                                   |
| <i>b. tumidula</i> Laestad. . .   | . . . .                           | . . . .                                    | . . .    | . . .                                    |
| 34. <i>C. limosa</i> L. . . .   | <i>Bog S.</i> . . .               | Spongy bogs. R.                            | 6-15 in. | P. 6-7                                   |
| <i>b. magellanica</i> (Lam.).   | . . . .                           | . . . .                                    | . . .    | . . .                                    |

ORD. XCI.—CYPERACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (*continued*).

20. Fert. spike obl. approx., sub-sess.—Bracts long, leafy, with short sheaths—  
Ls. convolute—Fr. ov., 3 sided, ribbed, inflated; beak short, smooth,  
straight.  
*b. Pl. sm.—St. shorter than ls.—Fr. less atten. into beak.*  
*c. Stem robust—Ls. broad—Spikes approx.—Nut subov.*
21. Fert. spike erect, 3-4 fld.—Stalks exserted.—Fr. lge. glob.; beak long, slender;  
gl. pale.

(6) *Fruit hairy—Beak short or o.*

22. Fert. spikes 2 or 3, dist. erect, lin. lax—Lower bract with setac. point—Ls.  
revolute.
23. Fert. spike, 3 near together—Bract memb. leafless, much shorter than spike—  
Miller's Dale, Derbyshire.
24. Fert. spike very remote, of 3-4 fl., enclosed in 2 memb. bract—Ls. involute.
25. Fr. spike (1-3) ov. obt. sess. approx.—Bract clasping—Fr. ov., 3 sided, as long  
as the ov. acum. gl.—Rt. cr.
26. Fert. spike few, capit. sm. sess.—St. curved, short—Fr. obov., 3 sided, as  
long as the broadly ov., ciliate, obt. gl.; beak ent.—Ls. rather broad.
27. Fert. spike (2-3) ov. sess. approx.—Rt. fibrous—Bract sm., memb.—Fr. obl.  
ov., longer than the obov. minute gl.
28. Fert. spike (1-2) short, cylind., shortly stalked—Rt. cr.—Lr. bract leaf-like,  
slightly sheathing, base of sheath reddish—Fr. obov., densely downy,  
longer than sm. acu. gl.; beak notched—St. erect.
29. Fert. spike (2-3) round, sess. approx.—Rt. fibrous—Bract sm., subu.—Fr. sub-  
glob., stalked, as long as broadly ov. mucro. gl.; beak short, notched.  
*b. Bracts long, leafy, upper long and slender, nut fusiform.*

(7) *Fruit glab. or scabrid—Beak short or o.*

30. Fert. spk. (2-3) den. fld., at l'gth. droop'g.—Bract often not sh'thing.—Fr. ellip.,  
obt., not veined, scab., as long as acu. gl.—Ls. glauc., stiff—Very variable.  
*b. Gl. blunt—Fr. smaller—Spikes cylind.*  
*c. Fert. spike, oval—Fr. obov. dotted.*  
*d. Fert. spike, sub-sess.—Gl. longer than fr., light red. br.*

(8) *Fr. glabrous—Beak short or o.*

31. Fert. spike ov. approx.—Fr. ov. obl. obt., doubly convex, veined, pellucid  
gr.—Beak o.
32. Fert. spike lax dist.—Fr. ellip.-lanc., 3-edged—Beak truncate, decurved,  
obliquely notched—Pl. gr., not glauc.
33. Fert. spike remote, lax flowered—Fr. ov. tumid, not veined—Beak short,  
terete—Ls. glauc.  
*b. Fr. large inflated.*

(*The vars. intermedia Miég. and conferta Nils. have been reported.*)

34. Fert. spike (1-2) long stalked, ov. dense fld.—Rt. cr.—Ls. narrow, rough at  
edge—Bract auricled—Fr. round, ov. compr. ribbed.  
*b. Ls. broad, rough only at apex—Lr. gl. narr. atten., upper gl. broader  
and shorter = C. irrigua Hoppe.*

ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.  | Common Name.              | Soil<br>or<br>Situation.            | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|---------------------------|-------------------------------------|-----------|--|
| <b>Gen. IX. Carex L.</b>   |                           |                                     |           |  |
| ( <i>continued</i> ).  |                           |                                     |           |  |
| 35. <i>C. rariflora</i> Sm. . . .                                  | <i>Few-fl'd. S.</i> . . . | Wet pl. on Sc.<br>mts. R.           | 4-12 in.  | P. 6-8                                   |
| (9)  |                           |                                     |           |  |
| 36. <i>C. atrofusca</i> Schk. . . .<br>( <i>C. ustulata</i> Wahl.) | <i>Scorched S.</i> . . .  | Wet pl. on Sc.<br>mts. V. R.        | 4-10 in.  | P. 7-8                                   |
| 37. <i>C. atrata</i> L. . . . .                                    | <i>Black S.</i> . . . .   | Sc. mt. cliffs .                    | 6-18 in.  | P. 7-8                                   |
| 38. <i>C. Halleri</i> Gunn. . . .<br>( <i>C. alpina</i> Sw.)       | <i>Alpine S.</i> . . . .  | Wet grassy pl. on<br>Sc. mts. V. R. | 6-15 in.  | P. 6-8                                   |
| 39. <i>C. polygama</i> Schk. . . .<br>( <i>C. Buxbaumii</i> Wahl.) | . . . . .                 | Spongy bogs &<br>wet pl. V. R.      | 12-24 in. | P. 7-8                                   |
| (10)   |                           |                                     |           |  |
| 40. <i>C. salina</i> Wahl. . . . .                                 | . . . . .                 | Side of tidal riv.<br>N. Scot. V.R. | 1-3 ft.   | P. 7-8                                   |
| 41. <i>C. elata</i> All. . . . .<br>( <i>C. stricta</i> Good.)     | <i>Tufted Sedge</i> .     | Peaty pl. R. .                      | 1-3 ft.   | P. 5-7                                   |
| <i>b. homalocarpa</i> (Peterm.)                                    | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| × <i>Goodenowii</i> = ? <i>C. turfosa</i><br>Fr.                   | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| (11)   |                           |                                     |           |  |
| 42. <i>C. gracilis</i> Curt. . . .<br>( <i>C. acuta</i> L.)        | <i>Slender Spiked S.</i>  | Wat. pl. . . .                      | 2-3 ft.   | P. 6-7                                   |
| <i>b. gracilescens</i> (Almq.)                                     | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>c. angustifolia</i> Kük.  | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>d. personata</i> (Fr.) . . .                                    | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>e. proluxa</i> (Fr.) . . . .                                    | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>f. tricostata</i> (Fr.) . . .                                   | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>g. viridis</i> (Hartm.) . . .                                   | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>h. sphærocarpa</i> Kük. . .                                     | . . . . .                 | Sussex . . . .                      | . . .     | . . .                                    |
| 43. <i>C. aquatilis</i> Wahl. . .                                  | <i>Water S.</i> . . . .   | Wat. pl. R. Sc.<br>Wales & Irel.    | 1-4 ft.   | P. 6-7                                   |
| <i>b. cuspidata</i> Laest. . . .                                   | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>c. epigeios</i> Laest. . . . .                                  | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>d. virescens</i> Anders. . . .                                  | . . . . .                 | . . . . .                           | . . .     | . . .                                    |
| <i>e. sphagnophila</i> Fr. . . .                                   | . . . . .                 | Scotland . . .                      | 6-9 in.   | . . .                                    |
| <i>f. stans</i> Boott . . . . .                                    | . . . . .                 | . . . . .                           | . . .     | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (*continued*).

35. Fert. spike (2-3) obl. lax, few flowered—Rt. cr.—Br. with short sheaths—Fr. obl., acum., shorter than broad blunt gl.

(9) *Spikes all sub-similar—Stig. 3, rarely 2.*

36. Fert. spike (2-4) shortly stalked, ovoid, dense fl. nodding, br. blk.—Bract scarcely leaf-like—Gl. ov. ac. dk. purp.—Fr. ellip. comp., rough edged—Beak bifid.—Rt. fibr.—Stig. 3, rarely 2.
37. Spike (3-4) ov. obl. contig., shortly stalked, at length drooping—Fr. ellip., 3-angled when ripe, rather shorter than gl.—Beak terete, short, slightly notched.
38. Spike (1-4) roundish, contig. sess.—Fr. obov., 3-angled, shortly beaked—Scab. above, longer than ov. obt. gl. = *C. Vahlil*.
39. Spike (3-4) obl. contig., lower rather dist. shortly stalked—Fr. ov., compress., at length 3-angled, bifid, shorter than ov. cusp. gl.—Ls. sheath with filamentous edge—Arisaig, Scot., Lough Neagh, Ireland.

(10) *Male and fem. spikes distinct—Stig. 2.*

40. Fert. spike erect (3-4)—Bract leaf-like, equalling spike—Stig. 2-3—Fr. ov. compressed with many veins and sh. beak.—Gl. brownish ov. obt. mucro., lower with an excurrent scabrid midrib—Ls. narrow yellowish gr.—Sheath not webbed.
41. Barr. spike 1—Fert. (2-3), approx. erect, thick.—Lower bract short—Fr. obl. ellip., acum. compressed, veined—Marg. of lr. sheath webbed—Densely cæspitose—Lf. marg. revolute when dry.
- b. Culms flaccid, ls. dark grass-green—Norfolk.*
- 41 × 44. *C. turfosa—Stoloniferous, with filam. marg. to lr. sheath (41 × 42 has also been recorded).*

(11) *Stig. 2—Sheath not webbed.*

42. Barr. spike (2-3)—Fert. slend. cylind., remote—Lr. bract long, with long aur.—Fr. obt. ribbed—Marg. of lr. sh. not conspic. filament—Plant loosely tufted.
- b. Fert. spike slender, drooping.*
- c. Ls. very narrow—Plant tufted—Spike slender cylindric.*
- d. Cæspitose—Ls. narrow, rigid, obscurely gr.; margin revolute, sparingly webbed at base—Spike slender, lax flowered, pendulous.*
- e. Cæspitose—Fr. compress. strongly nerved, shorter than long tapering gl.*
- f. Stolonif.—Young fr. ventricose, becoming compressed, 3-veined, longer than sm. obl. gl.—Spike short, sess.*
- g. Gl. gr., shorter than fr.*
- h. Fr. sm. orbicular.*
- (42 × 44 has been reported—? the *C. clytroides* Fr.)
43. Fert. spike elong., narrowed below—Fr. ellip., doubly convex, not veined—Marg. of ls. involute when dry—St. trigon. smooth.
- b. Gl. elong. cuspidate—Fr. narrow—Stem tall, spikes distant.*
- c. Ls. flat, strict—Fem. spike few fld. obl.—Gl. dk. br.—Fr. yell. gr.*
- d. Gl. short ( $\frac{1}{2}$  length of fr.) obt. pale.*
- e. Plant short (6-9 in.), spike cyl. atten. at base—Gl. ac. pale.*
- f. Ls. flat, broad—Spikes approx. large—Bract equalling stem—Gl. blk. br. broad, often acute.*

(*Hybrids with Goodenowii, rigida, elata, and salina, have been reported.*)

ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.   | Common Name.                       | Soil<br>or<br>Situation. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|------------------------------------|--------------------------|----------|--|
| <b>Gen. IX. Carex L.</b><br>( <i>continued</i> ).   |                                    |                          |          |  |
| 44. <i>C. Goodenowii</i> Gay . . .<br>( <i>C. vulgaris</i> )  | <i>Common S.</i> . . .             | Dp. pl. . . .            | 6-24 in. | P. 6-8                                   |
| <i>b. juncea</i> Fr. . . . .  | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>c. recta</i> A. & G. . . . .   | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>d. stenocarpa</i> Kük. . . . .   | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>e. chlorostachya</i> Druce . . . . .   | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>f. Gibsoni</i> (Bab.) . . . . .  | . . . . .                          | Hebden Bridge,<br>York.  | . . .    | . . .                                    |
| <i>g. trinervis</i> (Degl.) . . . . .   | . . . . .                          | Ormesby, Norf.<br>V. R.  | . . .    | . . .                                    |
| <i>h. tornata</i> (Fr.) . . . . .   | . . . . .                          | Marshes . . . .          | . . .    | . . .                                    |
| <i>i. subcæspitosa</i> Kük. . . . .   | . . . . .                          | Rosslare, I. . .         | . . .    | . . .                                    |
| 45. <i>C. concolor</i> R. Br.<br>( <i>rigida</i> )  | . . . . .                          | Mts. . . . .             | 4-9 in.  | P. 6-8                                   |
| <i>b. inferalpina</i> (Laest.) . . . . .  | . . . . .                          | Sc. mts. R. . . .        | 6-12 in. | . . .                                    |
| ii. <i>Homostachyæ</i> — <i>Spikelets in a comp. cont. or int. spike, male at one or both ends, or nearly unisexual</i> — <i>Stig. 2.</i> |                                    |                          |          |  |
| (1)   |                                    |                          |          |  |
| 46. <i>C. elongata</i> L. . . . .   | <i>Elongate S.</i> . . . .         | Marshes. R. . .          | 1-2 ft.  | P. 6-8                                   |
| 47. <i>C. leporina</i> L. . . . .<br>( <i>C. ovalis</i> Good.)  | <i>Oval S.</i> . . . . .           | Past. etc. . . .         | 8-12 in. | P. 6-7                                   |
| <i>b. argyrolochin</i> Koch . . . . .   | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>c. longibracteata</i> Peterm. . . . .  | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| <i>d. capitata</i> Sond. . . . .  | . . . . .                          | . . . . .                | . . .    | . . .                                    |
| 48. <i>C. Lachenalii</i> Schk. . . . .<br>( <i>C. lagopina</i> Wahl.)   | . . . . .                          | Wet pl. Sc. mt.<br>V. R. | 4-8 in.  | P. 7-8                                   |
| × <i>canescens</i> = <i>C. helvola</i><br>Blytt. . . . .  | . . . . .                          | Sc. mt. V. R. . .        | 6-9 in.  | . . .                                    |
| 49. <i>C. echinata</i> Murr. . . . .<br>( <i>C. stellulata</i> Good.)   | <i>Prickly S.</i> . . . .          | Marshes . . . .          | 4-12 in. | P. 5-7                                   |
| <i>b. grypus</i> (Schk.) . . . . .  | . . . . .                          | Mts. . . . .             | . . .    | . . .                                    |
| 50. <i>C. remota</i> L. . . . .   | <i>Distant Spiked</i><br><i>S.</i> | Sh. pl. . . . .          | 1-2 ft.  | P. 6-7                                   |
| × <i>vulpina</i> = <i>C. axillaris</i><br>Good. . . . .   | . . . . .                          | Ditches, etc. R.         | 1-3 ft.  | . . .                                    |
| × <i>paniculata</i> — <i>C. Bæninghausiana</i> Willd.<br>. . . . .  | . . . . .                          | Wet wo. R. . .           | 1-3 ft.  | . . .                                    |
| 51. <i>C. canescens</i> L. . . . .<br>( <i>C. curta</i> Good.)  | <i>Grey S.</i> . . . . .           | Bogs . . . . .           | 1-2 ft.  | P. 6-7                                   |
| <i>b. robustior</i> And. . . . .  | . . . . .                          | Mt. bogs . . . .         | 6-12 in. | . . .                                    |
| <i>c. tenuis</i> Lang. . . . .  | . . . . .                          | Bogs . . . . .           | . . .    | . . .                                    |
| <i>d. fallax</i> F. Kurtz. . . . .  | . . . . .                          | Mt. bogs . . . .         | . . .    | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (continued).

44. Fert. spike, cylind. sub-sess.—Fr. ellip., plano-convex many veined.
- b. Pl. cæspitose, ls. narr. convolute, strict—Stem tall, slender.*  
*c. Pl. tall, robust, not cæspitose, root cr.—Ls. long, narrow—Spikes remote.*  
*d. Glumes narrower, more acute—Fr. obl. elliptic.*  
*e. Gl. shorter than pale gr. fruit.*  
*f. Fr. lanc. acute, nut broadly obov.—Peri. nearly twice as long as nut—? A monstrosity, extinct.*  
*g. St. trigon. smooth, stolonif.—Gl. bluntish, narrower than type; keel broad gr. wh.—Fert. spike (2-5) short, stout, approx.—Fr. strongly 3-5 veined.*  
*h. Densely cæspit.—Ls. flat, broad, rigid—Spike cyl., thick, sub-approx.*  
*i. Cæspit. and stolon—Ls. narrow, flat—Fr. compressed, abortive.*
- (A hybrid with *rigida* is reported. *C. cæspitosa* L. has also been recorded, but awaits confirmation.)
45. Barr. spike 1; fert. short, ov. approx.—Bract sheathing at base—Fr. ellip. obt. not ribbed—Ls. curving outwards with deflexed edges, rigid.
- b. Taller, ls. broader and more erect—Fert. spikes stalked, elongated, tapering below.*
- ii. *Homostachyæ.* (1) *Spikes androgynous; female at top.*
46. Spike many, obl. approx.—Fr. spread obt. acum., many ribbed—Beak almost ent., with rough edges—Bract 0, or 1 very short—Nut lin. obl.
47. Spike fuscous, about 6, alt. ov. approx.—Fr. ov. acum., erect with memb. marg.; beak bifid.
- b. Glumes silvery white—Spikelets rather narrower.*  
*c. Spike with bracts longer than themselves.*  
*d. Spikes closely agg. in compact term. cluster.*
48. Spike fuscous, ellip. contig.—Fr. erect, ellip.—Beak ent., scarious at apex. gl. ov. nearly as long as fr.—At about 3000 ft. elev. in Inverness and Aberdeen.
- × *Taller, ls. semi-glauc.—Spike longer—Fr. scarcely longer than gl. barren—? 48 × 51.*
49. Spike pale gr. (3-4) glob. remote—Fr. broadly ov. spreading, much beaked—Ripe fr. stellate—Nut ovoid.
- b. Glumes dk. br. conspic. narr. gr. keel.*
50. Spike all simp.; upper crowded—Fr. ov. lanc., longer than gl.—Beak notched—Ls. channelled—Bract leaf-like—Lr. spikelets remote.
- 50 × 52. *Lr. spike, densely compound—Ls. flat, broader—Fr. ov. lanc. serr. above, as long as gl.—Bract. leaf-like.*
- 50 × 55. *Spike, upper simp., lower comp.—Fr. lanc. as long as gl., serr. from below the mid.; beak almost ent.*
51. Spikes. (about 6) pale, ellip.—Fr. broadly ov. compress. acute, faintly striate—Beak emarg.—Gl. whitish.
- b. Smaller—Fr. more glob.—Ls. broad, rigid—St. rigid, short—Spikes, approx.*  
*c. Very slender, spike sm., remote—Ls. narrow, long, grass like.*  
*d. Gl. memb. br.—St. short, often incurved—Ls. narrow—Spikes. sm.*



ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil<br>or<br>Situation.      | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|-------------------------------|----------|--|
| <b>Gen. IX. Carex L.</b><br>( <i>continued</i> ).        |                          |                               |          |  |
| (2)  |                          |                               |          |  |
| 52. <i>C. vulpina</i> L. . . .                           | <i>Fox S.</i> . . .      | Ditches, etc. .               | 1-4 ft.  | P. 5-7                                   |
| <i>b. litoralis</i> Nolte . . .                          | . . . .                  | . . . .                       | . .      | . .                                      |
| <i>c. nemorosa</i> Lej. . . .                            | . . . .                  | . . . .                       | . .      | . .                                      |
| 53. <i>C. muricata</i> L. . . .                          | . . . .                  | Ditches, etc. .               | 1-2 ft.  | P. 5-7                                   |
| <i>b. Leersii</i> (Sch.) . . .                           | . . . .                  | Dry banks . .                 | . .      | . .                                      |
| <i>c. Pairaei</i> (Sch.) . . .                           | . . . .                  | S. W. of E. R.                | . .      | . .                                      |
| × <i>remota</i> = × <i>C. pseudo</i><br><i>axillaris</i> | . . . .                  | . . . .                       | . .      | . .                                      |
| 54. <i>C. divulsa</i> Stokes . .                         | . . . .                  | Dry hedge bks.                | 1-2 ft.  | P. 5-7                                   |
| × <i>vulpina</i> . . . .                                 | . . . .                  | . . . .                       | . .      | . .                                      |
| (3)  |                          |                               |          |  |
| 55. <i>C. paniculata</i> L. . . .                        | <i>Tussock S.</i> . . .  | Bogs . . . .                  | 2-6 ft.  | P. 5-7                                   |
| <i>b. simplex</i> Peterm. . . .                          | . . . .                  | . . . .                       | . .      | . .                                      |
| <i>c. rigida</i> Blytt. . . .                            | . . . .                  | . . . .                       | . .      | . .                                      |
| 56. <i>C. paradoxa</i> Willd. . .                        | . . . .                  | Marshes. R. .                 | 9-18 in. | P. 6-7                                   |
| 57. <i>C. diandra</i> Schrank . .                        | . . . .                  | Bogs. R. . .                  | 9-18 in. | P. 6-8                                   |
| ( <i>C. teretiuscula</i> (Ehrh.).                        | . . . .                  | . . . .                       | . .      | . .                                      |
| <i>b. major</i> (Koch) . . . .                           | . . . .                  | . . . .                       | . .      | . .                                      |
| (4)  |                          |                               |          |  |
| 58. <i>C. disticha</i> Huds. . . .                       | <i>Soft br. S.</i> . . . | Marshes . . .                 | 1-2 ft.  | P. 6-7                                   |
| ( <i>C. intermedia</i> Good.)                            | . . . .                  | . . . .                       | . .      | . .                                      |
| <i>b. longibracteata</i> Druce                           | . . . .                  | . . . .                       | . .      | . .                                      |
| 59. <i>C. arenaria</i> L. . . .                          | <i>Sand S.</i> . . . .   | Sea sand. . .                 | 6-12 in. | P. 6-7                                   |
| <i>b. remota</i> Marss. . . .                            | . . . .                  | . . . .                       | . .      | . .                                      |
| (5)  |                          |                               |          |  |
| 60. <i>C. divisa</i> Huds. . . .                         | . . . .                  | Brackish mar. .               | 1-3 ft.  | P. 5-7                                   |
| <i>b. chaetophylla</i> Daveau.                           | . . . .                  | Local . . . .                 | . .      | . .                                      |
| 61. <i>C. chordorrhiza</i> Ehrh..                        | . . . .                  | Scot. spongy<br>bogs. V. R.   | 6-12 in. | P. 6-7                                   |
| 62. <i>C. incurva</i> Lightf. . .                        | <i>Curved S.</i> . . .   | Dp. sea sand,<br>N. Br. V. R. | 2-4 in.  | P. 6-7                                   |
| <i>b. erecta</i> Lang . . . .                            | . . . .                  | . . . .                       | . .      | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (*continued*).

- (2) *Spike simply compound—Fr. squarrose, not gibbous—Green when young.*
52. *Spike crowded, cylind. obl.—St. triquet., with concave sides—Fr. ov. acum., spreading, not gibb.; beak bifid, finely serr.*  
*b. St. short, thin, rigid—Spike sub-simp. ov.*  
*c. Inflorescence interrupted—Bracts long, leaf-like, gl. paler, more cuspidate.*
53. *Spike (4-6) compact, contig. in an oval spike—Fr. ov. acum., spreading, finely serr. above, bifid; beak elongated.*  
*b. Spike interrupted below, gl. shorter and broader, paler and greener.*  
*c. Ls. narrower; spike compact, sometimes interrupted at base—Fr. short divergent, abruptly contracted into short beak—Nut sm. obt. quadr.*  
 53 × 50. *Lower spikes compound—Ls. broad flat—Bucks.*
54. *Spike (5-6) dist., lax, drooping, upper approx.—Fr. ov. acu., erect, long. smooth bifid.*  
 54 × 52 *has been found at Malvern, etc.*
- (3) *Spike compound, often paniced—Fr. ascending, gibbous at back—Brown when young.*
55. *In dense tussocks—St. triquet. with flat sides—Ls. very sharp and rough—Spike thrice comp., paniced, branches spreading—Fr. ov. many veined, gibb.—Beak winged.*  
*b. Inflorescence reduced to narrow almost simp. spikes.*  
*c. Spikes more rigid, darker coloured—Spikelets more crowded.*
56. *Spike elong., lower branch d, dist.—St. slender, triquet., with convex sides—Fr. ov. gibb., with many short veins nr. base; beak not winged.*
57. *Spike obl. compact, acute—Root forming scattered tufts—St. triquet., with convex sides—Fr. ov. gibb., with 3-4 cent. nerves; beak winged.*  
*b. Root more tufted—Spikelet large, interrupted.*
- (4) *Sobole far-creeping—Spike nearly unisexual.*
58. *Spikelets in an obl. interr. spike; upper and lower fert.; intermed. barren—Fr. ov. lanc., narrowly winged, longer than gl.*  
*b. Spike more interrupted, with long bract.*
59. *Spikelets in an obl. interr. spike; upper barren; interm. barren at end—Fr. ov. veined, winged, finely serr. above; shorter than gl.*  
*b. Spike much interrupted—Spikelet remote—St. more slender.*
- (This form has probably been mistaken for *C. ligerica* Gay.)
- (5) *Spike male at top—Sobole far-creeping.*
60. *Spike in crowded head, with leafy bract at base—Fr. plano-convex, sub-orbic., veined, not winged; beak short, finely serr., acutely bifid.—Gl. ov. ac. or mucro.*  
*b. Gl. oval-acum.—Fr. oval, attenuate into a rather elong. beak—Sussex.*
61. *Spike crowded in sm. ov. head—Fr. inflated, ovoid, br., shining, narrowing somewhat suddenly into an inconspic. bifid beak—Gl. blunt.*
62. *Spike in glob. head—St. curved, so as to bring the spike to ground—Fr. broadly ov.—Ls. channelled.*  
*b. St. sub-erect, 4-6 in.—Spike longer and broader.*

ORD. XCI.—CYPERACEÆ (*continued*).

| Botanical Name.   | Common Name.             | Soil<br>or<br>Situation.  | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|---------------------------|----------|--|
| <b>Gen. IX. Carex L.</b><br>( <i>continued</i> ).       |                          |                           |          |  |
| iii. <i>Monostachyæ</i> — <i>Spike simp. sol. term.</i> |                          |                           |          |  |
| (1)   |                          |                           |          |  |
| 63. <i>C. rupestris</i> Bell. . . .                     | <i>Rock S.</i> . . .     | Sc. mt. cliffs. R.        | 3-6 in.  | P. 6-7                                   |
| 64. <i>C. pauciflora</i> Lightf. . .                    | <i>Few-flowered S.</i>   | N. Br. and Irish<br>moors | 6-9 in.  | P. 6-7                                   |
| (2)   |                          |                           |          |  |
| 65. <i>C. pulicaris</i> L. . . .                        | <i>Flea S.</i> . . .     | Boggy pl. . . .           | 3-8 in.  | P. 5-7                                   |
| 66. <i>C. dioica</i> L. . . .                           | <i>Diœcious S.</i> . . . | Bogs . . . .              | 4-10 in. | P. 5-7                                   |
| [67. <i>C. Davalliana</i> Sm. . . .                     | <i>Davall's S.</i> . . . | Bogs . . . .              | 4-6 in.  | P. 5-6                                   |

## ORD. XCII —GRAMINACEÆ.

|   |                       |                              |          |        |
|---|-----------------------|------------------------------|----------|--------|
| <b>Gen. I. Panicum L.</b>                                   |                       |                              |          |        |
| * <i>Echinochloa</i> .                                      |                       |                              |          |        |
| *1. <i>P. Crus-galli</i> L. . . .                           | . . . .               | W. pl. . . .                 | 9-24 in. | A. 7-9 |
| <i>b. brevisetum</i> Doell. . . .                           | . . . .               | . . . .                      | . . .    | . . .  |
| <i>c. longiaristatum</i> Lej. . .                           | . . . .               | . . . .                      | . . .    | . . .  |
| * * <i>Digitaria</i> .                                      |                       |                              |          |        |
| *2. <i>P. sanguinale</i> L. . . .                           | <i>Finger Grass</i> . | W. pl., ballast,<br>etc.     | 6-12 in. | A. 7-8 |
| *3. <i>P. lineare</i> Krock. . . .                          | . . . .               | W. pl. . . .                 | 6-9 in.  | A. 7-8 |
| * * * <i>Panicum</i> .                                      |                       |                              |          |        |
| *4. <i>P. miliaceum</i> L. . . .                            | <i>Millet Grass</i> . | W. pl. . . .                 | 1-2 ft.  | A. 6-9 |
| <b>Gen. II. Setaria Beauv.</b>                              |                       |                              |          |        |
| <i>Bristle Grass</i> .                                      |                       |                              |          |        |
| *1. <i>S. viridis</i> Beauv. . . .                          | . . . .               | W. pl. . . .                 | 9-18 in. | A. 6-9 |
| *2. <i>S. glauca</i> Beauv. . . .                           | . . . .               | W. pl. . . .                 | 9-18 in. | A. 6-9 |
| *3. <i>S. verticillata</i> Beauv. .                         | . . . .               | W. pl. . . .                 | 9-18 in. | A. 6-9 |
| <b>Gen. III. Spartina Schreb.</b>                           |                       |                              |          |        |
| <i>Cord Grass</i> .   |                       |                              |          |        |
| 1. <i>S. alterniflora</i> Lois. . .                         | . . . .               | Mud flats S. of<br>Eng.      | 2-3 ft.  | P. 7-9 |
| × <i>stricta</i> = <i>S. Towns-</i><br><i>endii</i> Groves. | . . . .               | . . . .                      | 2-4 ft.  | P. 7-9 |
| 2. <i>S. stricta</i> Roth. . . .                            | . . . .               | Mud flats S. and<br>E. of E. | 1-2 ft.  | P. 7-9 |



ORD. XCI.—CYPERACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. IX. *Carex* (*continued*).

iii. *Monostachyæ*. (1) *Diac. or monac. with male fl. at top—Stig. 3.*

63. Ls. flat, ending in a twisted withered point—Upper half of spikelet barren—Fr. obov. adpr.—Gl. persist., dk. br.  
 64. One or two term. fl. barren—Fr. few, lanc. subu., reflexed, yell.-gr.

(2) *Stigmas 2.*

65. Androgynous—Spike with upper part barren—Fr. lanc. triang. (flea-like), deflexed.  
 66. Diœcious—Spike ov., dense—Fr. ov. ascend., serrulated at margin.  
 67. Diœcious—Fr. deflexed, ov. lanc., angles rough nr. top—Rt. tufted—Formerly at Lansdown, Bath, now extinct.]

## ORD. XCII.—GRAMINACEÆ.

Gen. I. *Panicum*.

\* *Spikelets in rac. or pan.—Fl. gl. awned or pointed.*

- \*1. Spikes alt. or oppos., often dk. purp., spikelets aggreg.—Rachis hispid.  
*b. Awn short or o.*  
*c. Very long awned.*

\* \* *Spikelets unilat. on digitate spikes—Fl. gl. not awned.*

- \*2. Ls. and sheath hairy—St. ascend.  
 \*3. Ls. and sheath glab.—Spikelet in pairs, one on longer stalk than other—St. prostr.

\* \* \* *Spikelets in panicles.*

- \*4. Ls. lge. and soft—Panicle diffuse, drooping ; often tinged with dk. br.

Gen. II. *Setaria*.

- \*1. Pan. spikelike, green (1-3 in.), invol. bristle with forward teeth, lr. pale sm.  
 \*2. Pan. spikelike, invol. brist. with ascend. teeth, pale transversely rugose.  
 \*3. Pan. spikelike, invol. brist. barbed with declining teeth—Lr. pale smooth.

Gen. III. *Spartina*.

1. Ls. contin. with sheath, equall. or exceeding the 6-8 spikes, which are loosely pressed together—Rachis produced beyond spikelets and flexuous, outer gl. glab.  
 × *Ls. jointed to sheath, shorter than spike—Rachis produced beyond spike and flexuous, outer gl. slightly downy—In great quantity near Southampton—Rapidly spreading on South Coast.*  
 2. Ls. jointed to sheath, shorter than spike—Spike. 2-3 closely aggregate, rachis not longer than last spikelet—Outer gl. hairy—A very rigid pl.

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.   | Common Name.           | Soil<br>or<br>Situation.           | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|------------------------|------------------------------------|----------|--|
| <b>Gen. IV. <i>Leersia</i> Sw.</b>                            |                        |                                    |          |  |
| 1. <i>L. oryzoides</i> Sw. . . .                              | <i>Cutgrass</i> . . .  | Str. sides S. of<br>E. V. R.       | 2-3 ft.  | P. 8-10                                  |
| <b>Gen. V. <i>Phalaris</i> L.</b>                             |                        |                                    |          |  |
| *1. <i>P. canariensis</i> L. . . .                            | <i>Canary Grass</i> .  | W. pl. . . .                       | 1-2 ft.  | A. 6-9                                   |
| 2. <i>P. minor</i> Retz. . . .                                | . . . .                | Cult. gr. Ch.<br>Isles. R.         | 1-3 ft.  | A. 6-7                                   |
| *3. <i>P. paradoxa</i> L. . . .                               | . . . .                | W. pl. Swanage                     | 1-2 ft.  | A. 6-7                                   |
| 4. <i>P. arundinacea</i> L. . . .                             | <i>Reed Grass</i> . .  | Wat. pl. . . .                     | 2-5 ft.  | P. 7-8                                   |
| <b>Gen. VI. <i>Anthoxanthum</i> L.</b>                        |                        |                                    |          |  |
| 1. <i>A. odoratum</i> L. . . .                                | <i>Vernal Grass</i> .  | Pastures . . .                     | 6-18 in. | P. 6-7                                   |
| <i>b. villosum</i> Lois. . . .                                | . . . .                | . . . .                            | . . .    | . . .                                    |
| <i>c. longiaristatum</i> Cel. .                               | . . . .                | . . . .                            | . . .    | . . .                                    |
| *2. <i>A. aristatum</i> Boiss. . .                            | . . . .                | Fie. and w. pl.                    | 4-8 in.  | A. 6-7                                   |
| ( <i>A. Puellii</i> Lec. & Lam.)                              |                        |                                    |          |  |
| <b>Gen. VII. <i>Hierochloa</i> Br.</b>                        |                        |                                    |          |  |
| 1. <i>H. odorata</i> Wahl. . . .                              | <i>Holy Grass</i> . .  | Dp. grassy pl.<br>Sc. V. R.        | 6-12 in. | A. 4-5                                   |
| ( <i>H. borealis</i> R. & S., Sav.<br><i>odorata</i> Scribn.) |                        |                                    |          |  |
| <b>Gen. VIII. <i>Alopecurus</i> L.</b>                        | <i>Fox-tail.</i>       |                                    |          |  |
| 1. <i>A. pratensis</i> L. . . .                               | <i>Meadow F.</i> . .   | Grassy pl. . .                     | 1-3 ft.  | P. 4-6                                   |
| × <i>geniculatus</i> . . . .                                  | . . . .                | . . . .                            | . . .    | . . .                                    |
| 2. <i>A. alpinus</i> Sm. . . .                                | <i>Alpine F.</i> . .   | Dp. grassy pl.<br>on Sc. mt. V. R. | 6-18 in. | P. 7-8                                   |
| <i>b. Watsoni</i> Syme . . .                                  | . . . .                | . . . .                            | . . .    | . . .                                    |
| 3. <i>A. myosuroides</i> Huds. .                              | <i>Field F.</i> . . .  | Cult. gr. . . .                    | 1-2 ft.  | A. 5-9                                   |
| 4. <i>A. geniculatus</i> L. . . .                             | . . . .                | Wet grassy pl.                     | 8-24 in. | P. 5-9                                   |
| <i>b. bulbosus</i> (Gouan) . .                                | . . . .                | Salt mar. R. .                     | . . .    | P. 5-6                                   |
| <i>c. æqualis</i> (Sobol.) . . .                              | . . . .                | Ponds. L. . .                      | . . .    | P. 5-9                                   |
| ( <i>A. fulvus</i> Sm.)                                       |                        |                                    |          |  |
| <b>Gen. IX. <i>Milium</i> L.</b>                              |                        |                                    |          |  |
| 1. <i>M. effusum</i> L. . . .                                 | <i>Wood Millet Gr.</i> | Woods . . .                        | 2-4 ft.  | P. 6-7                                   |
| 2. <i>M. vernale</i> Bieb. . . .                              | . . . .                | Grassy cliffs.<br>V. R.            | 1-4 in.  | A. 4-5                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. IV. Leersia = Homalocenchrus** (*older name*).

1. Pan. patent with wavy branches light gr., often enclosed in leaf-sheath—Spikelets 3-androus, half oval, keel cili.—Ls. broad rough edged—Resembling in foliage *P. arundinacea*, but yellow, not blue-green—Panicle quite different.

**Gen. V. Phalaris.**

- \*1. Pan. ovoid—Gl. winged on keel, wing ent. pale yell., varieg. with gr. lines—Rudim. fl. 2—St. with more than one head.
2. Pan. cyl. obl.—Gl. winged on upper part of keel—Wing toothed nr. top—Rudim. fl. 1—St. with single head.
- \*3. Pan. spikelike—Gl. of fert. fl. with a blunt toothed wing on keel—Rud. fl. several.
4. Pan. (3-4 in.) upright with short spreading branches—Gl. not winged, but keeled.

**Gen. VI. Anthoxanthum.**

1. Sp. ov. obl.—Fl. longer than awn—Sta. 2—Pan. interrupted below—Foliage odorous of coumarin.
  - b. Panicle villous.*
  - c. Awns long, spikelet elong.*
- \*2. Annual, very slender, much branched and bent at nodes, pan. lax, awn long, slender, much exserted—Odour faint.

**Gen. VII. Hierochloe.** *The older name is Savastana Schr.*

1. Pan. erect, pyr. sub-unilat.—Spike. ov. shining, often br. when ripe—Fl. gl. very shortly awned nr. lip—St. tufted sm. glab.—Pl. odorous of coumarin.

**Gen. VIII. Alopecurus.**

1. St. erect—Pan. cylind. obt. ( $1\frac{1}{2}$ – $2\frac{1}{2}$  in.)—Gl. lanc. acu., hairy, conn. at base—Awn twice as long as acute pale—Ls. with rough edges.
  - × *Ligule oblong—Pan. ( $2\frac{1}{2}$  in.) gl. and pale obt.—A. hybridus Wimm.*
2. St. cr. below then erect—Pan. short ovoid obt.—Gl. ov. suddenly acu., conn. at base—Awn not exceeding pale—Ls. soft flat—Sc. mt. 2000–3600 ft.
  - b. Pan. lax; more acu. purplish glume and longer awn.*
3. St. erect, rough—Pan. (2-3 in.) slend. acum. flex. often purplish—Gl. ac. united to mid-glab.—Awn twice as long as pale.
4. St. prost. or asc., bent at joint—Pan. ( $1\frac{1}{2}$ –2 in.) cylind. obt.—Gl. obt. conn. at base—Awn longer than pale—Anthers brownish red.
  - b. St. erect, tuberos at base—Pan. cylind. slender—Gl. abruptly acum. free at base—Awn longer than pale.*
  - c. St. decumb., often floating—Ls. glauc.—Awn shorter than pale—Anthers orange yell.*

**Gen. IX. Milium.**

1. Pan. diff., branches spreading, sub-verticill.; remote at base; pale acu.—Ls. broad, flat, thin, pale gr., odorous of coumarin.
2. Pan. close; pale obt.—St. scab.—Ls. short, lin. lanc.—Petit Bo, Guernsey.



ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.  | Common Name.             | Soil<br>or<br>Situation.         | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|----------------------------------|-----------|--|
| <b>Gen. X. Phleum L.</b><br>*                                      | <i>Cat's-tail Grass.</i> |                                  |           |  |
| 1. <i>P. pratense L.</i> . . .                                     | <i>Timothy Gr.</i> . . . | Past. . . . .                    | 1-4 ft.   | P. 6-7                                   |
| <i>b. nodosum (L.)</i> . . .                                       | . . . . .                | Dry grassy pl. . .               | 6-12 in.  | P. 6-7                                   |
| <i>c. præcox (Jord.)</i> . . .                                     | . . . . .                | . . . . .                        | . . .     | . . .                                    |
| <i>d. stoloniferum Bab.</i> . .                                    | . . . . .                | . . . . .                        | . . .     | . . .                                    |
| 2. <i>P. alpinum L.</i> . . .                                      | <i>Alpine C.</i> . . .   | Dp. alp. past.<br>Sc. R.         | 6-18 in.  | P. 7-8                                   |
| * * *  |                          |                                  |           |  |
| 3. <i>P. phleoides Simonk.</i> .                                   | <i>Purp.-stalked C.</i>  | Dry calc. past.                  | 12-18 in. | A. 6-8                                   |
| 4. <i>P. arenarium L.</i> . . .                                    | <i>Sand C.</i> . . .     | Sands nr. coast                  | 4-8 in.   | A. 6-7                                   |
| *5. <i>P. paniculatum Huds.</i> .                                  | . . . . .                | W. pl. V. R. . .                 | 6-12 in.  | A. 6-7                                   |
| <b>Gen. XI. Mibora Adans.</b>                                      |                          |                                  |           |  |
| 1. <i>M. minima Desv.</i> . . .<br>( <i>Knappia agrostidea</i> )   | . . . . .                | Dry sandy pl.<br>V. R.           | 1-3 in.   | A. 4-5                                   |
| <b>Gen. XII. Agrostis L.</b>                                       | <i>Bent grass.</i>       |                                  |           |  |
| 1. <i>A. verticillata Vill.</i> . .                                | . . . . .                | Roadsides, etc.                  | 6-18 in.  | P. 5-6                                   |
| 2. <i>A. alba L.</i> . . . . .                                     | <i>White B.</i> . . .    | Grassy pl. . . .                 | 1-3 ft.   | P. 6-8                                   |
| <i>b. stolonifera (L.)</i> . . .                                   | . . . . .                | Dp. pl. often nr.<br>coast       | 1-1½ ft.  | . . .                                    |
| <i>c. coarctata Hoffm.</i> . . .                                   | . . . . .                | Dp. pl. . . . .                  | 1-3 ft.   | . . .                                    |
| <i>d. maritima Meyer</i> . . .                                     | . . . . .                | Marit. sands . .                 | 4-9 in.   | . . .                                    |
| <i>e. major Gaud.</i> . . . .                                      | . . . . .                | Woods, etc., w.<br>pl.           | 2-4 ft.   | . . .                                    |
| 3. <i>A. tenuis Sibth.</i> . . . .<br>( <i>A. vulgaris With.</i> ) | <i>Fine B.</i> . . . .   | Dry past. . . .                  | 12-18 in. | P. 7-8                                   |
| <i>b. nigra Druce</i> . . . .                                      | <i>Black B.</i> . . .    | Cult. fie. . . .                 | 1-3 ft.   | . . .                                    |
| <i>c. pumila (L.)</i> . . . .                                      | <i>Sm. B.</i> . . . .    | Heathy pl. . . .                 | 1-3 in.   | . . .                                    |
| <i>d. aristata (Parn.)</i> . . .                                   | . . . . .                | . . . . .                        | 12-18 in. | . . .                                    |
| 4. <i>A. setacea Curt.</i> . . .                                   | <i>Heath B.</i> . . .    | Heaths S. W.<br>of E.            | 1-2 ft.   | P. 7-8                                   |
| 5. <i>A. canina L.</i> . . . .                                     | <i>Brown B.</i> . . .    | Heathy pl. . . .                 | 1-2 ft.   | P. 6-7                                   |
| <i>b. scotica Hack.</i> . . . .                                    | . . . . .                | Ross-shire mt.                   | 6-9 in.   | . . .                                    |
| <i>c. lævis Hack.</i> . . . .                                      | . . . . .                | Brandon mt. R.                   | 6-9 in.   | . . .                                    |
| <i>d. grandiflora Hack.</i> . .                                    | . . . . .                | Sc. moors . . . .                | . . .     | . . .                                    |
| <i>e. mutica Gaud.</i> . . . .                                     | . . . . .                | Heathy pl. . . .                 | . . .     | . . .                                    |
| <i>f. vinealis With.</i> . . . .                                   | . . . . .                | Dp. heaths . . .                 | . . .     | . . .                                    |
| <b>Gen. XIII. Polypogon</b><br><i>Desf.</i>                        | <i>Beard-grass.</i>      |                                  |           |  |
| 1. <i>P. monspeliensis Desf.</i>                                   | . . . . .                | Sandy pl. nr.<br>coast. R. . . . | 9-18 in.  | A. 7-8                                   |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. X. Phleum.**\* *Gl. trunc., with bristly points.*

1. Pan. cylind., long—Awn not half as long as gl.—Leaf-sheath not inflated—St. tufted.

- b. Base of stem swollen—Pan. short—St. more or less decumb.*

- c. St. ascending—Ls. slend.—Pan. short—Anth. yell.*

- d. Many barren leafy prost. stolons.*

2. Pan. ov. cylind.—Awn as long as gl.—Leaf-sheath inflated—St. sol.

\* \* *Gl. acute at each end.*

3. Pan. cylind. long, rather narrow—Gl. lin. lanc. obliquely truncate—Culm purple.—Pl. glab., upper sheath scarcely inflated = *P. Boehmeri* Wib.

4. Pan. ov. lanc., blunt, narrowed at base—Gl. lanc. fringed—Lat. ribs prominent—Upper sheath inflated.

- \*5. Pan. cylind., slender—Gl. wedge-shaped—Lateral ribs inconspicuous—Alien.

**Gen. XI. Mibora.**

1. St. many, slender—Ls. short, rough—Gl. longer than pale.—Spike 5-10 sess.—Pan. lobed—Anglesey, Channel Isles.

**Gen. XII. Agrostis.**

1. Like 2, but st. bent at base—Branches of panicle with flowers to the base—Ch. Isles.

2. St. proc. below, then erect—Sheath roughish—Ligule long, acu.—Pan. compact after flowering—The lower part of panicle branches bare of flowers.

- b. Rigid—St. proc. and rooting, pan. lobed, dense fld.*

- c. St. upright—Pan. branch short, oblong, compact.*

- d. Glaucous, very slender, very narrow panicle—Ls. short, incurved.*

- e. Very tall, pan. lge., branches long, open.*

3. Pan. always spreading—Ligule short truncate—Sheath smooth.

- b. Pan. br. constantly erect-patent, bare of fl. below, scabrid—Ligule prominent, obl. truncate.*

- c. Cæspitose—Pl. very small, often infested with smut.*

- d. Outer pale with a long slender dorsal awn.*

4. Ls. setac. glauc.—Sheath rough—Pan. close oblong—Pale awned.

5. Ls. narrow, sheath smooth—Pan. spread. in fr. ; otherwise close.

- b. Pan. simpler, larger fl.*

- c. Pan. and its branches smooth—Fl. large.*

- d. Fl. large—Pl. robust.*

- e. Without awns.*

- f. Trailing leafy shoots, pale gr. glauc.*

**Gen. XIII. Polypogon.**

1. Root fibr.—Gl. lin. hairy, obt.,  $\frac{1}{2}$  as long as awn—Pan. dense lobed ; pale, silky.

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.  | Common Name.                                | Soil<br>or<br>Situation.      | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|---|-------------------------------|-----------|--|
| <b>Gen. XIII. Polypogon</b><br><i>Desf. (continued).</i>   |   |                               |           |  |
| 2. <i>P. littoralis Sm.</i> . . .  | . . . . .                                   | Sandy pl. nr.<br>coast. V. R. | 4-18 in.  | P. 7-8                                   |
| <b>Gen. XIV. Calamagrostis</b><br><i>Adans.</i>  |   |                               |           |  |
| 1. <i>C. epigeios Roth.</i> . .  | <i>Wood S.</i> . . . .                      | Dp. woods . .                 | 2-5 ft.   | P. 6-7                                   |
| 2. <i>C. canescens Gmel.</i> .<br>( <i>C. lanceolata Roth</i> )  | <i>Smaller W. S.</i> . .                    | D. woods and<br>marshes. R.   | 2-4 ft.   | P. 6-7                                   |
| <b>Gen. XV. Deyeuxia</b> <i>Clar.</i>  |   |                               |           |  |
| 1. <i>D. neglecta Kunth.</i> . .   | . . . . .                                   | Marshes. R. .                 | 1-2 ft.   | P. 6-8                                   |
| [ <i>b. borealis (Laest.)</i> . .  | . . . . .                                   | Scottish marsh                | . .       | . .                                      |
| <i>c. Hookeri (Syme)</i> . .   | . . . . .                                   | Marsh. V. R. .                | . .       | . .                                      |
| ( <i>Deyeuxia strigosa</i> from Caithness is only a form of <i>D. neglecta</i> with more<br><i>acum. gl.</i> ) |   |                               |           |  |
| <b>Gen. XVI. Gastridium</b><br><i>Beauv.</i>   |   |                               |           |  |
| 1. <i>G. lendigerum Gaud.</i> .  | <i>Nitgrass</i> . . .                       | Cult. gr. . . .               | 12-18 in. | P. 6-10                                  |
| <b>Gen. XVII. Apera</b> <i>Adans.</i>  |   |                               |           |  |
| 1. <i>A. Spica-venti Beauv.</i> .  | . . . . .                                   | Cult. gr. . . .               | 1-4 ft.   | A. 6-7                                   |
| 2. <i>A. interrupta Beauv.</i> .   | . . . . .                                   | Sandy gr. E. of<br>E.         | 6-18 in.  | A. 6-7                                   |
| <b>Gen. XVIII. Ammophila</b><br><i>Host.</i>   |   |                               |           |  |
| 1. <i>A. arenaria Link</i> . .   | <i>Marram</i> . . . .                       | Sandy coasts .                | 1-3 ft.   | P. 6-8                                   |
| 2. <i>A. baltica Link</i> . . .  | . . . . .                                   | Sandy coast E.<br>of E. V. R. | 2-4 ft.   | P. 6-8                                   |
| <b>Gen. XIX. Lagurus</b> <i>L.</i>   |   |                               |           |  |
| 1. <i>L. ovatus L.</i> . . . .   | <i>Hare's-tail</i> . .                      | Sandy shores,<br>Ch. Isles    | 3-12 in.  | A. 5-7                                   |
| <b>Gen. XX. Aira</b> <i>L.</i>   |   |                               |           |  |
| 1. <i>A. caryophylla L.</i> . .  | <i>Hairgrass.</i><br><i>Silver H.</i> . . . | Dry soils . .                 | 6-12 in.  | A. 6-7                                   |
| <i>b. multicaulis (Dum.)</i> . .   | . . . . .                                   | . . . . .                     | . .       | . .                                      |
| <i>c. divaricata (Pourr.)</i> . .  | . . . . .                                   | . . . . .                     | . .       | . .                                      |
| 2. <i>A. præcox L.</i> . . . .   | <i>Early H.</i> . . .                       | Heathy pl. . .                | 1-4 in.   | A. 5-7                                   |
| <b>Gen. XXI. Corynephorus</b><br><i>Beauv.</i>   |   |                               |           |  |
| 1. <i>C. canescens Beauv.</i> .  | <i>Grey Hair Grass</i>                      | Sandy co. R. .                | 3-8 in.   | A. 6-7                                   |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XIII. Polypogon** (*continued*).

2. Root cr —Gl. lin. lanc. acu. as long as awn—Pan. purplish.  
(Probably a hybrid of 1 and *Agrostis alba*.)

**Gen. XIV. Calamagrostis.**

1. Pan. erect, close—Spikelets crowded, unilat.—Awn longer than pale.  
2. Pan. loose—Spikelets spreading—Ls. narrower and smoother than 1—Awn scarcely projecting above pale.

**Gen. XV. Deyeuxia** (= *Calamagrostis p.p.*).

1. Pan. narr., erect, close—Gl. lanc. acum.—Upper ligule short, blunt.  
*b. Pan. more strict—Gl. more acute—Now extinct.]*  
*c. Upper ligule longer and more acute—Pan. denser, hairs longer—Shores of Lough Neagh.*

**Gen. XVI. Gastridium.**

1. Pan. dense, gl. lanc. shining, awn exserted.

**Gen. XVII. Apera.**

1. Pan. lge. pyram. effuse.—Awn much exceeding the fl. gl.—Anth. lin.  
2. Pan. contracted, interrupted—Anth. obl.

**Gen. XVIII. Ammophila** = *Psamma*.

1. Ls. long, rigid, glauc. involute—Pan. white, cylindr. acum.—Gl. lin. long acu., 3 times as long as hairs.  
2. Pan. less silvery white, elongated, interrupted—Gl. lanc. acum., twice as long as hairs—Ross, Northumberland; Yarmouth, Norfolk.  
(A probable hybrid of 1 and *Calamagrostis epigeios*.)

**Gen. XIX. Lagurus.**

1. Spikelets soft, ov. (1–1½ in.)—Ls. broadly lanc., downy.

**Gen. XX. Aira.**

1. Pan. spreading, branches long trichotomous—Awn from below midd. of pale—Sheath scabrous.  
*b. Stems many, second fl. stalked—Gl. shortly acum. pointed.*  
*c. Pan. branches widely divaricate.*  
2. Pan. spike-like, obt.—Awn from near base of pale—Sheath glab.

**Gen. XXI. Corynephorus.** *The earlier name is Weingartneria.)*

1. Ls. tufted, setaceous, glauc. reddish at base, rigid—Pan. narr., silvery or purplish.

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.  | Common Name.           | Soil<br>or<br>Situation.    | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|-----------------------------|-----------|--|
| <b>Gen. XXII. Deschampsia</b><br><i>Beauv.</i>             | <i>Hair Grass.</i>     |                             |           |  |
| 1. <i>D. cæspitosa</i> Beauv. . .                          | <i>Tufted H.</i> . .   | Rough past., etc.           | 2-4 ft.   | P. 7-8                                   |
| <i>b. pseudoalpina</i> (Syme)                              | . . . . .              | Mts. . . . .                | 9-15 in.  | . . .                                    |
| <i>c. parviflora</i> Dum. . .                              | . . . . .              | Wo. and sha. pl.            | 2-3 ft.   | . . .                                    |
| <i>d. argentea</i> S. F. Gray                              | . . . . .              | Woods, etc. . .             | 2-3 ft.   | . . .                                    |
| <i>e. longiaristata</i> (Parn.)                            | . . . . .              | Mts. . . . .                | 1-2 ft.   | . . .                                    |
| <i>f. brevifolia</i> (Parn.) . .                           | . . . . .              | Mts. etc. . . .             | 12-18 in. | . . .                                    |
| <i>g. alpina</i> R. & S. . . .                             | . . . . .              | Mts. R. . . . .             | 6-9 in.   | . . .                                    |
| 2. <i>D. setacea</i> Hack. . .                             | <i>Marsh H.</i> . .    | Marg. of peaty<br>pools. R. | 1-2 ft.   | P. 7-8                                   |
| ( <i>Aira uliginosa</i> , <i>A. setacea</i> )              |                        |                             |           |  |
| 3. <i>D. flexuosa</i> Trin. . .                            | <i>Waved H.</i> . .    | Heaths . . . .              | 1-2 ft.   | P. 7-8                                   |
| <i>b. montana</i> (Huds.) . .                              | . . . . .              | . . . . .                   | . . .     | . . .                                    |
| <i>c. voirlichensis</i> (Melv.)                            | . . . . .              | . . . . .                   | . . .     | . . .                                    |
| <b>Gen. XXIII. Holcus</b> L.                               |                        |                             |           |  |
| 1. <i>H. mollis</i> L. . . . .                             | <i>Soft-grass</i> . .  | Dry woods and<br>heathy pl. | 1-3 ft.   | P. 6-8                                   |
| 2. <i>H. lanatus</i> L. . . . .                            | <i>Yorkshire Fog</i> . | Fields. . . . .             | 1-2 ft.   | P. 6-8                                   |
| <b>Gen. XXIV. Trisetum</b> Pers.                           |                        |                             |           |  |
| 1. <i>T. flavescens</i> Beauv. . .                         | <i>Yell. Oat Gr.</i> . | Dry past. . . .             | 1-1½ ft.  | P. 6-7                                   |
| ( <i>T. pratense</i> = <i>Avena pratensis</i> )            |                        |                             |           |  |
| <i>b. variegatum</i> (M. & K.)                             | . . . . .              | . . . . .                   | . . .     | . . .                                    |
| <b>Gen. XXV. Avena</b> L.                                  | <i>Oat.</i>            |                             |           |  |
| *  |                        |                             |           |  |
| 1. <i>A. fatua</i> L. . . . .                              | <i>Wild Oat</i> . .    | Cult. gr. . . . .           | 2-4 ft.   | A. 6-7                                   |
| <i>b. glabrata</i> (Peterm.) . .                           | . . . . .              | . . . . .                   | . . .     | . . .                                    |
| <i>c. pilosissima</i> Gray . .                             | . . . . .              | . . . . .                   | . . .     | . . .                                    |
| *2. <i>A. strigosa</i> Schreb. . .                         | . . . . .              | Cult. gr. . . . .           | 2-3 ft.   | A. 7-8                                   |
| * *  |                        |                             |           |  |
| 3. <i>A. pubescens</i> Huds. . .                           | . . . . .              | Dry past. . . .             | 1-2 ft.   | P. 6-7                                   |
| <i>b. alpina</i> Gaud. . . . .                             | . . . . .              | Mts. . . . .                | 9-18 in.  | 7-8                                      |
| 4. <i>A. pratensis</i> L. . . . .                          | . . . . .              | Dry grassy pl. .            | 1-2 ft.   | P. 6-7                                   |
| <i>b. alpina</i> Sm. . . . .                               | . . . . .              | Mts. . . . .                | . . .     | 7-8                                      |
| <i>c. longifolia</i> Parn. . . .                           | . . . . .              | Grassy pl. . . .            | . . .     | 6-7                                      |
| <b>Gen. XXVI. Arrhena-</b><br><b>therum</b> Beauv.         |                        |                             |           |  |
| 1. <i>A. elatius</i> M. & K. . .                           | <i>False Oat</i> . .   | Hedges, etc. . .            | 2-3 ft.   | P. 6-7                                   |
| ( <i>A. avenaceum</i> Beauv. =<br><i>Avena elatior</i> L.) |                        |                             |           |  |
| <i>b. tuberosum</i> (Gilib.) . .                           | . . . . .              | Cult. and wa. gr.           | . . .     | . . .                                    |
| <i>c. biaristatum</i> Druce . .                            | . . . . .              | Shingle, etc. . .           | . . .     | . . .                                    |
| <i>d. pauciflorum</i> Druce . .                            | . . . . .              | Dry woods . . .             | . . .     | . . .                                    |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXII. Deschampsia** (*Aira p.p.*).

1. Much tufted—Ls. lin. obl.—Pan. lge. ov obl.; fl. imbricated—Spikelets, shining, fulvous or purplish—Awn straight, inserted below mid. of gl.
  - b. Often viviparous—Pan. close—Ls. short, rigid, densely tufted.*
  - c. Spikelets very sm.*
  - d. Spikelets silvery white—Keel of gl. greenish.*
  - e. Fl. conspicuously awned, sheath rough.*
  - f. Rad. ls. very short, sheath and st. smooth.*
  - g. Short, ls. narrow, channelled, smooth—Awn shorter, inserted at midd. of gl.—Fl. often viviparous.*
2. St. erect, slender—Ls. capillary—Awn bent, twisted at base, from near base of pale and exceeding it—Lg. lin. lanc.
3. St. erect, slender, often reddish, glossy—Awn as in 1—Lig. short, truncate—Ls. short, curved, obt., grooved—Spikelets purplish or yell.-br., shining.
  - b. Sub-alpine—Gl. larger, more purple, ls. shorter.*
  - c. Spikelet with 3 perfect fl.—Ben Voirlich.*

**Gen. XXIII. Holcus.**

1. Root cr.—St. villous at nodes—Inner gl. acute—Awn exerted, rough throughout.
2. Root fibr.—Inner gl. obl.—Awn included, smooth except at tip—Pl. softly tomentose—Pan. very pale gr. or pinkish.

**Gen. XXIV. Trisetum.**

1. Rad. ls. hairy—Pan. much branched, yellowish—Outer pale with 2 term. bristles—Lig. obt.
  - b. Spikelets variegated with violet.*

**Gen. XXV. Avena.**

\* *Inner gl. 5-7 ribbed—Spikelets ultimately drooping.*

1. Spike 3-flowered—Lower pale bifid at end, with fulvous hairs at base.
  - b. Lr. pales glab.*
  - c. Lr. pales densely clothed with hairs.*
- \* 2. Spike 2-fl. —Lower pale glab., ending in 2 long straight bristles.
  - \* \* *Inner gl. with 3 ribs—Spikelet erect.*
3. Rad. ls. and base of culm hairy—Outer pale jagged—Ligule acute.
  - b. Culm and ls. nearly glab.—Pl. more rigid.*
4. Rad. ls. glauc. beneath, glab., as is culm.—Pan. branches simp.
  - b. Pan. branches more compound (5-6 spike.) upper pale less ac.—Ls. broader.*
  - c. Rad. ls. long slender.*

**Gen. XXVI. Arrhenatherum.**

1. Pan. simp. lax—Ls. rough, flat, scabr.—Knots of st. glab.—Rt. fibr.
  - b. Knots of st. downy—Rootst. with swollen knobs*
  - c. Fl. with two awns.*
  - d. Pan. narr. few flowered—Dry woods.*



ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.  | Common Name.              | Soil<br>or<br>Situation.     | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---------------------------|------------------------------|----------|--|
| <b>Gen. XXVII. Cynodon</b> <i>Pers.</i>                |                           |                              |          |  |
| 1. <i>C. Dactylon Pers.</i> . . .                      | <i>Dog's-tooth Gr.</i>    | Sandy pl. V. R.              | 4-8 in.  | P. 7-8                                   |
| <b>Gen. XXVIII. Sieglingia</b><br><i>Bernh.</i>        |                           |                              |          |  |
| 1. <i>S. decumbens Bernh.</i> . .                      | <i>Heath Gr.</i> . . .    | Rough past., etc.            | 6-12 in. | P. 7-8                                   |
| <b>Gen. XXIX. Phragmites</b><br><i>Trin.</i>           |                           |                              |          |  |
| 1. <i>P. vulgaris Druce</i> . . .                      | <i>Reed</i> . . . . .     | Riv. sides, etc.             | 2-10 ft. | P. 7-8                                   |
| <i>b. subuniiflora Druce</i> . . .                     | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <i>c. stolonifera Druce.</i> . . .                     | . . . . .                 | Sea cliffs. . . .            | . . .    | . . .                                    |
| <b>Gen. XXX. Sesleria</b> <i>Scop.</i>                 |                           |                              |          |  |
| 1. <i>S. cærulea Ard.</i> . . . .                      | <i>Moor Grass.</i> . . .  | Calc. past. and<br>hills. L. | 6-18 in. | P. 4-6                                   |
| <i>b. luteoalba Opiz.</i> . . . .                      | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <b>Gen. XXXI. Cynosurus</b> <i>L.</i>                  |                           |                              |          |  |
| 1. <i>C. echinatus L.</i> . . . .                      | <i>Rough Dog's-tail</i>   | W. pl. . . . .               | 1-2 ft.  | A. 5-7                                   |
| 2. <i>C. cristatus L.</i> . . . .                      | <i>Crested Dog's-tail</i> | Dry past. . . .              | 6-24 in. | P. 7-8                                   |
| <b>Gen. XXXII. Koeleria</b> <i>Pers.</i>               |                           |                              |          |  |
| 1. <i>K. gracilis Pers.</i> . . . .                    | . . . . .                 | Dry past. . . .              | 6-12 in. | P. 6-7                                   |
| <i>b. britannica (Domin)</i> . . .                     | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| ( <i>K. cristata auct. br. p.p.</i> )                  |                           |                              |          |  |
| <i>c. latifolia Domin</i> . . . .                      | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <i>d. gypsacea Domin</i> . . . .                       | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <i>e. Nicholsoni (Domin)</i> . . .                     | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <i>f. aristata (Domin)</i> . . . .                     | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| 2. <i>K. albescens DC.</i> . . . .                     | . . . . .                 | Sea sands. V. R.             | 6-15 in. | P. 6-7                                   |
| <i>b. glabra DC.</i> . . . . .                         | . . . . .                 | R. . . . .                   | . . .    | . . .                                    |
| 3. <i>K. vallesiana A. &amp; G.</i> . .                | . . . . .                 | Calc. pl. R. . . .           | 6-15 in. | P. 6-7                                   |
| <b>Gen. XXXIII. Molinia</b><br><i>Schrank.</i>         |                           |                              |          |  |
| 1. <i>M. cærulea Moench.</i> . . .                     | <i>Purp. Moor Gr.</i>     | Moors . . . .                | 1-4 ft.  | P. 7-8                                   |
| <i>b. depauperata (Lindl.)</i> . .                     | . . . . .                 | . . . . .                    | 3-9 in.  | . . .                                    |
| <i>c. obtusa (Peterm.)</i> . . . .                     | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| <i>d. robusta (Prahl)</i> . . . .                      | . . . . .                 | . . . . .                    | . . .    | . . .                                    |
| ( <i>major Roth</i> )                                  |                           |                              |          |  |
| <i>e. viridiflora Lej.</i> . . . .                     | . . . . .                 | Shady pl. . . .              | 1-4 ft.  | . . .                                    |
| <b>Gen. XXXIV. Catabrosa</b><br><i>Beauv.</i>          |                           |                              |          |  |
| 1. <i>C. aquatica Beauv.</i> . . .                     | <i>Whorl Grass</i> . .    | W. pl. . . . .               | 6-24 in. | P. 5-6                                   |
| <i>b. grandiflora Hack.</i> . . .                      | . . . . .                 | Scot. co. . . . .            | . . .    | . . .                                    |
| <i>c. uniflora Gray (littoralis Parn., minor Bab.)</i> | . . . . .                 | Wet sandy co. . .            | 2-6 in.  | . . .                                    |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXVII. Cynodon** (*the older name is Capriola Adans*).

1. Spike, 3-5 digitate, purplish—Rt. cr.—Ls. subu. stiff, downy beneath, strongly nerved, on barr. st., distichous—Ch. Isles, Cornw., Dors.

**Gen. XXVIII. Sieglingia** = *Triodia* = *Danthonia*.

1. Pan. racemose—Spikelets 6-10 turgid—Ligule only a tuft of hairs.

**Gen. XXIX. Phragmites** = *Arundo*.

1. Pan. lge. (10-18 in.) soft dull purp., nodding—Ls. ( $\frac{1}{2}$ -2 in. brd.) flat, rigid, glauc.
  - b. Spike. (1-3 fld.)—Pl. smaller.*
  - c. Soboles aerial, 20-40 ft. long—Devon, I. of Wight.*

**Gen. XXX. Sesleria.**

1. Much tufted—Ls. lin. flat, glauc. obt.—Pan., ov.-obl. sub-secund; fl. imbric.; blue-grey.
  - b. Pan. yell.-white—Ireland, Yorks. etc.*

**Gen. XXXI. Cynosurus.**

1. Spike ov. dense, lobed—Awn as long as fl. gl.—Annual.
2. Spike unilat. lin.—Awn shorter than fl. gl.—Perennial, tufted.

**Gen. XXXII. Koeleria.**

1. Pan. silvery, interrupted below. sub-glab.—Gl. sm. keel glab.
  - b. Pl. more downy—St. with villose hairs beneath the pan., which is more lobed and more pubescent.*
  - c. Ls. broad, plant tall, lax.*
  - d. Pl. sm., rigid.*
  - e. Ls. long, flat, glab. gr.; pan. long, lobed, always 3-fld.*
  - f. Like b. but longer awned.*
2. Ls. convolute, pan. lobed, yell.-wh.—Dorset, Ch. Isles.
  - b. Smaller—Ls. rigid, glab., often curved—Pan. cyl. contracted, dense.*
3. Rootstock clothed with the persistent fibres of ls. sheaths making a dense network—Ls. short, curved, revolute, glauc. rigid—N. Somerset.

**Gen. XXXIII. Molinia.**

1. Pan. (1-12 in.) long, narrow, erect, purplish—Spike 1-3 fld.—Ls. flat, stem wiry.
  - b. Spike 1-fld., fl. gl. 5 nerves.*
  - c. Gl. broader and blunter.*
  - d. Plant tall, panicle large.*
  - e. Panicle green flowered.*

**Gen. XXXIV. Catabrosa.**

1. Pan. long, pyram.; branches whorled, patent—Ls. lanc. obt.—Soft bright gr.
  - b. Spikelets large—Caithness coast.*
  - c. Spikelets 1-fld.—Pl. sm., weak—Moist sea-sand.*

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.                                  | Common Name.             | Soil<br>or<br>Situation. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|--------------------------|--------------------------|-----------|--|
| <b>Gen. XXXV. Melica L.</b>                      | <i>Melic Grass.</i>      |                          |           |  |
| 1. <i>M. nutans</i> L. . . . .                   | <i>Mt. M.</i> . . . .    | Calc. woods. L.          | 1-2 ft.   | P. 5-6                                   |
| 2. <i>M. uniflora</i> Retz. . . .                | <i>Wood M.</i> . . . .   | Dry shad. pl. .          | 1-2 ft.   | P. 5-7                                   |
| <b>Gen. XXXVI. Dactylis L.</b>                   |                          |                          |           |  |
| 1. <i>D. glomerata</i> L. . . . .                | <i>Cock's foot</i> . . . | Past. . . . .            | 1-4 ft.   | P. 6-9                                   |
| <i>b. abbreviata</i> Bernh. . . .                | . . . . .                | Dry downs . . .          | 1-2 ft.   | . . .                                    |
| <b>Gen. XXXVII. Desma-<br/>zeria Dum.</b>        |                          |                          |           |  |
| 1. <i>D. loliacea</i> Nym. . . . .               | . . . . .                | Sea co. L. . . .         | 6-10 in.  | A. 6-7                                   |
| ( <i>Festuca rotbœllioides</i><br><i>Kunth</i> ) |                          |                          |           |  |
| <b>Gen. XXXVIII. Briza L.</b>                    | <i>Quaker Grass.</i>     |                          |           |  |
| *1. <i>B. maxima</i> L. . . . .                  | <i>Lge. Q.</i> . . . .   | W. pl. Jersey .          | 1-1½ ft.  | A. 5-6                                   |
| 2. <i>B. media</i> L. . . . .                    | <i>Common Q.</i> . . .   | Past., etc. . . .        | 6-12 in.  | P. 6-7                                   |
| <i>b. albida</i> Lej. . . . .                    | . . . . .                | . . . . .                | . . . . . | . . . . .                                |
| 3. <i>B. minor</i> L. . . . .                    | <i>Sm. Q.</i> . . . .    | Cult. gr. R.<br>S. of E. | 6-12 in.  | A. 6-8                                   |
| <b>Gen. XXXIX. Poa L.</b>                        | <i>Meadow Grass.</i>     |                          |           |  |
| 1. <i>P. Chaixii</i> Vill. . . . .               | . . . . .                | Woods and<br>plantat. R. | 2-5 ft.   | P. 6-7                                   |
| ( <i>P. sudetica</i> Haenke)                     |                          |                          |           |  |
| 2. <i>P. pratensis</i> L. . . . .                | <i>Smooth M.</i> . . .   | Past., etc. . . .        | 1-2 ft.   | P. 6-7                                   |
| <i>b. subcærulea</i> (Sm.) . . . .               | . . . . .                | Dry pl. . . . .          | 4-15 in.  | . . . .                                  |
| <i>c. angustifolia</i> (L.) . . . .              | . . . . .                | Banks, etc. . . .        | 1-2 ft.   | . . . .                                  |
| <i>d. strigosa</i> Gaud. . . . .                 | . . . . .                | Stony pl. . . . .        | . . . . . | . . . . .                                |
| *3. <i>P. palustris</i> L. . . . .               | . . . . .                | Marshy pl. V.R.          | 1-3 ft.   | P. 6-8                                   |
| ( <i>P. serotina</i> Ehrh.)                      |                          |                          |           |  |
| 4. <i>P. trivialis</i> L. . . . .                | <i>Rough M.</i> . . .    | Meadows, etc. .          | 1-2 ft.   | P. 6-7                                   |
| <i>b. glabra</i> Doell. . . . .                  | . . . . .                | Dp. woods, etc.          | . . . .   | . . . .                                  |
| ( <i>Koeleri</i> )                               |                          |                          |           |  |
| <i>c. parviflora</i> Parn. . . . .               | . . . . .                | . . . . .                | . . . . . | . . . . .                                |
| 5. <i>P. nemoralis</i> L. . . . .                | <i>Wood Poa</i> . . .    | Woods and sh.<br>pl.     | 1-2 ft.   | P. 6-7                                   |
| <i>b. coarctata</i> Gaud. . . . .                | . . . . .                | . . . . .                | . . . .   | . . . .                                  |
| <i>c. uniflora</i> M. & K. . . . .               | . . . . .                | . . . . .                | . . . .   | . . . .                                  |
| <i>d. Parnellii</i> Bab. . . . .                 | . . . . .                | Sh. pl. R. . . .         | 9-18 in.  | 7-8                                      |
| <i>e. Balfouri</i> (Parn.) . . . .               | . . . . .                | Mts. N. Br. R.           | 9-18 in.  | 7-8                                      |
| <i>f. angustifolia</i> Parn. . . . .             | . . . . .                | Woods, etc. . .          | . . . .   | 6-7                                      |
| 6. <i>P. glauca</i> Vahl. . . . .                | <i>Glaucous Poa</i> .    | Mts. R. . . . .          | 6-12 in.  | P. 7-8                                   |



ORD. XCII.—GRAMINACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XXXV. Melica.**

1. Pan. a unilat. nearly simp. rac.—Spikelets drooping with 2 perfect fl.
2. Pan. lax, slightly drooping—Spikelets erect of 1 perfect fl.

**Gen. XXXVI. Dactylis.**

1. Pan. branched, branches distinct, distant, with crowded unilat. clusters of spikelets.
- b. Cluster of spikelets agglomerated.*

**Gen. XXXVII. Desmazeria.**

1. Pan. racemose, simp. with alt. sol. lin. obt. spikelets—Upper gl. reaching to base of 4th floret—(=*Poa loliacea*, *Trit. loliaceum*, *Festuca rottbatioides*).

**Gen. XXXVIII. Briza.**

1. Spikelets, lge. ( $\frac{1}{2}$ – $\frac{3}{4}$  in.), ovate many fld.—Naturalised in Jersey.
2. Spikelets ( $\frac{1}{4}$ – $\frac{1}{2}$  in.), ovate about 5-fld.—Lig. short truncate.
- b. Spikelets yell.-white.*
3. Spikelets triang. ( $\frac{1}{6}$  in.), about 7-fld.—Lig. long, acute.

**Gen. XXXIX. Poa.**

1. Tufted, ls. broad, hooded, apic.—Lig. blunt, short—Lr. pale with 5 veins.
2. St. terete, smooth—Pan. spread.—Upper l. shorter than sheath—Lig. prominent, blunt.
- b. Ls. short and broader—Spikelet broader, often glauc. blue.*
- c. Ls. long, lin., lower involute—Spikelets small.*
- d. Ls. conv.—Pan. rough, closing in fr.*
- \*3. St. tufted, glab.—Root fibrous or creeping with short stolons—Ls. rather narr. scabrid.—Lig. long acute—Pan. large open—Lr. pale obscurely 5-veined, hairy on keel—Severn, Tay, and Boyne.
4. St. tufted—Lig. acute, long—Pan. diff.—Sheaths rough.
- b. Sheaths smooth.*
- c. Fl. small (1-2 fld.), plant slender.*
5. Slightly cr.—Lig. very short truncate—Sheaths smooth, upper not longer than its leaf—Pan. rather drooping, slender—Ls. slender, upper horizontal—Very variable, 7 or 8 varieties being reported as British; the chief are—
- b. St. rigid, pan. close, spike. 3-5 fld.*
- c. St. weak—Spike. 1-2 fld.*
- d. Upper sheath usually longer than its leaf—Lig. slightly longer than type—Rare—Durham, York, Easternness.*
- e. Creeping—Pan. erect, rather spread.—Upper sheath as long as leaf—Lig. prominent, blunt.*
- f. Pan. slender—Ls. narr.—Spike. 1-2 fld.*
6. Rt. rather cr.—Ls. glauc., rather stiff—Pan. erect, slender—Lr. pale 5-veined—Uppermost knot near base of st.—Lig. obt.—Lowest fl. longer than lge. gl.

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.                                  | Common Name.            | Soil<br>or<br>Situation.  | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|-------------------------|---------------------------|-----------|--|
| <b>Gen. XXXIX. <i>Poa</i> L.</b>                 |                         |                           |           |  |
| ( <i>continued</i> ).                            |                         |                           |           |  |
| 7. <i>P. compressa</i> L. . . .                  | <i>Flat-stalked Poa</i> | Walls and dry<br>pl.      | 6-18 in.  | P. 6-7                                   |
| <i>b. Langeana</i> Koch. . . .                   | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>c. polynoda</i> Parn. . . .                   | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| 8. <i>P. alpina</i> L. . . . .                   | <i>Alpine P.</i> . . .  | Mts. L. . . . .           | 4-12 in.  | P. 7-8                                   |
| <i>b. acutifolia</i> Druce . . .                 | . . . . .               | Sc. mt. V. R. . .         | 4-9 in.   | . . .                                    |
| ( <i>P. stricta</i> Syme= <i>P. laxa</i> Bab.)   |                         |                           |           |  |
| 9. <i>P. laxa</i> Haenke . . . .                 | . . . . .               | Sc. mt. V. R. . .         | 4-9 in.   | P. 7-8                                   |
| ( <i>P. minor</i> Bab.)                          |                         |                           |           |  |
| 10. <i>P. bulbosa</i> L. . . . .                 | <i>Bulbous P.</i> . . . | Sand. marit. pl.<br>R.    | 6-8 in.   | P. 4-5                                   |
| 11. <i>P. annua</i> L. . . . .                   | <i>Annual M.</i> . . .  | Ubiquitous . . .          | 3-12 in.  | A. 2-10                                  |
| <i>b. varia</i> Gaud. . . . .                    | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <b>Gen. XL. <i>Glyceria</i> Br.</b>              |                         |                           |           |  |
| * <i>Hydrochloa</i> .                            |                         |                           |           |  |
| 1. <i>G. aquatica</i> Wahl. . . .                | <i>Reed Mead. Gr.</i>   | Marshes and<br>str. sides | 3-6 ft.   | P. 4-8                                   |
| 2. <i>G. fluitans</i> Br. . . . .                | <i>Floating M. G.</i>   | Wat. pl. . . . .          | 1-4 ft.   | P. 7-8                                   |
| <i>b. triticea</i> Lange . . . .                 | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>c. plicata</i> (Fr.) . . . . .                | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>d. pumila</i> Fr. . . . .                     | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>e. pedicellata</i> (Townes.)                  | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| * * <i>Puccinellia</i> =<br><i>Sclerochloa</i> . |                         |                           |           |  |
| 3. <i>G. distans</i> Wahl. . . .                 | . . . . .               | Marit. pl. . . .          | 9-24 in.  | P. 7-10                                  |
| ( <i>Scleroch. multiculmis</i> Syme)             |                         |                           |           |  |
| <i>b. prostrata</i> Beeby . . . .                | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>c. tenuiflora</i> Gr. & Godr.                 | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| 4. <i>G. maritima</i> Wahl. . . .                | . . . . .               | Salt mar. . . .           | 6-15 in.  | P. 7-9                                   |
| <i>b. festuciformis</i> (Heyn.)                  | . . . . .               | Coast Irel. L. . .        | 2-3 ft.   | . . .                                    |
| <i>c. hispida</i> (Parn.) . . . .                | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>d. riparia</i> (Townes.) . . .                | . . . . .               | Tidal river-side.<br>R.   | . . . . . | . . . . .                                |
| <i>e. Foucaudii</i> (Hack.) . . .                | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XXXIX. *Poa* (*continued*).

7. St. cr., lower part compressed, decumb. at base—Pan. slightly secund, condensed—Spike. ov.—Lr. pale 3-veined—Upper l. as long as sheath—Lig. short, trunc.
  - b. Fl. webbed, pales 5-veined = subcompressa Parn.*
  - c. Fl. free, pale 3-veined, with 2 fainter intermed. veins—Lig. more prom.*
8. Root tufted—Fl. often vivip.—Ls. folded and rounded behind top, rather broad, upper shorter than its sheath—Pan. erect, loose—Spike. 4-5 fld.—Lig. long, pointed.
  - b. Ls. narrower, acute at point—Usually viviparous—Pan. narrower, and less compact.*
9. Rt. fibr.—Ls. folded and incurved but tapering at tip—Spike. 3-4 webbed fls.—Pan. obl. subov.
10. St. terete, swollen at base—Ls. finely serr.—Pan. close—Spike. ov. 3-4 fld.—Pale webbed at base—A viviparous form is found.
11. Pan. spread.—Branches at length deflexed—Spike. 5 fl. ov.—Ls. invol. obt.—St. compress.—Lig. long, acute.
  - b. Spike. variegated with purple—Pl. usually sm.—Mts.*

Gen. XL. *Glyceria*. (*Sclerochloa* in part.)

\* Scales fleshy, truncate or o—Fr. thick obt., hardly compressed, furrow very narr. or o.

1. Pan. (6-12 in.) erect, much branched—Spike. obt. 5-10 fld.—Ls. (1-2 ft.)  $\frac{1}{2}$  in. broad.
2. Pan. secund. sub-simp.—Spike. lin.—Fl. gl. (7-20)—Anth. 5 times as long as broad—Lr. gl. pointed—Very variable.
  - b. Pan. simp. racemose, fr. spike adpressed to rachis; outer pale broadly lanc. ac.*
  - c. Pan. compound with divaric. fr. spike.—Fl. glumes twice as long as brd.—Anth. 3 times as long as brd.—Lr. pale obt. 3-lobed. —*
  - d. St. tufted, decumb.—Pan. unilat., distich., spikelets violet—Lr. pale (7 nerved) and 3 toothed = G. declinata Bréb.*
  - e. Pan. branches simp. roughish—Ls. more acute—Usually barren sheath furrowed—Probably a hybrid of G. fluitans and var. plicata.*

\* \* Scales slender distinct—Fr. thick dorsally compress., ventrally hollow or broadly furrowed.

3. Root tufted—Peren.—Pan. long branched, branches at length deflexed—Ls. flat—Lower pale obt., mid-rib not reaching to top.
  - b. Pl. prostrate.*
  - c. Pl. more slender, few flowered = var. miliacea (Vill.) Druce.*
4. Rt. cr., stolon long—Pan. erect, contracted—Lr. branches in pairs—Ls. invol.—Lr. pale obt. or apic., mid-rib reaching to tip.
  - b. St. firm, erect, slightly arching at top—Ls. (1 foot long) broader than type, but not flat—Spikelets and fl. larger than type.*
  - c. Panicle rough—St. compress.*
  - d. More slender, fl. fewer—Lr. pale with narr. white border.*
  - c. St. with lge. cent. cavity—Ls. flat—Spikelets and fl. larger than type.*



ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.   | Common Name.             | Soil<br>or<br>Situation.    | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--------------------------|-----------------------------|----------|--|
| <b>Gen. XL. <i>Glyceria</i> Br.</b><br>( <i>continued</i> ).          |                          |                             |          |  |
| 5. <i>G. Borreri</i> Bab. . . .                                       | . . . .                  | Salt mar. R. .              | 6-18 in. | P. 6-9                                   |
| <i>b. humilis</i> Marshall .  | . . . .                  | Salt mar. . .               | 3-6 in.  | A. 6-7                                   |
| 6. <i>G. procumbens</i> Dum. .  | . . . .                  |                             |          |  |
| <b>Gen. XLI. <i>Festuca</i> L.</b> <i>Fescue.</i>                     |                          |                             |          |  |
| * <i>Catapodium</i> Link.   |                          |                             |          |  |
| 1. <i>F. rigida</i> Kunth. . . .<br>( <i>Sclerochloa rigida</i> Link) | <i>Hard Fescue</i> .     | Dry calc. pl. .             | 3-6 in.  | A. 6-7                                   |
| * * <i>Schenodorus</i> Beauv.   |                          |                             |          |  |
| 2. <i>F. gigantea</i> Vill. . . .<br>( <i>Bromus giganteus</i> L.)    | <i>Lge. F.</i> . . .     | Woods and sh.<br>pl.        | 2-4 ft.  | P. 7-8                                   |
| <i>b. triflora</i> (Sm.) . . .  |                          |                             |          |  |
| 3. <i>F. arundinacea</i> Schreb.                                      | <i>Tall F.</i> . . .     | Stiff soils . .             | 3-6 ft.  | P. 7-8                                   |
| <i>b. strictior</i> Hack. . . .                                       | . . . .                  | . . . .                     | . .      | . .                                      |
| <i>c. pauciflora</i> Hartm. .   | . . . .                  | . . . .                     | . .      | . .                                      |
| 4. <i>F. elatior</i> L. . . . .                                       | <i>Meadow F.</i> . .     | Meadows . .                 | 1-2 ft.  | P. 6-8                                   |
| <i>b. pratensis</i> (Huds.) .   | . . . .                  | . . . .                     | 1-2 ft.  | . .                                      |
| <i>c. pseudololiacea</i> Hack.  | . . . .                  | . . . .                     | . .      | . .                                      |
| × <i>Lolium perenne</i> L. .  | . . . .                  | Water mead. .               | 1-2 ft.  | . .                                      |
| 5. <i>F. sylvatica</i> Vill. . .                                      | <i>Reed F.</i> . . .     | Woods. R. . .               | 2-3 ft.  | P. 7-8                                   |
| <i>b. decidua</i> Sm. . . . .   | . . . .                  | . . . .                     | . .      | . .                                      |
| * * * <i>Festuca.</i>   |                          |                             |          |  |
| 6. <i>F. heterophylla</i> Lam. .                                      | <i>Various-leaved F.</i> | Woods, Plantat.<br>R.       | 1-2 ft.  | P. 6-7                                   |
| 7. <i>F. rubra</i> L. . . . .   | <i>Red F.</i> . . .      | Grassy pl. . .              | 1-3 ft.  | P. 6-7                                   |
| <i>b. duriuscula</i> (Syme) .   | . . . .                  | . . . .                     | . .      | . .                                      |
| <i>c. commutata</i> Gaud.<br>( <i>fallax</i> Thuill.)                 | . . . .                  | . . . .                     | . .      | . .                                      |
| <i>d. barbata</i> (Hack.) . .   | . . . .                  | . . . .                     | . .      | . .                                      |
| <i>e. arenaria</i> (Osb.) . .   | . . . .                  | Sea-shores . .              | . .      | . .                                      |
| <i>f. dumetorum</i> (L.) . .  | . . . .                  | Sandy co. V. R.<br>Lincoln. | . .      | . .                                      |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XL. *Glyceria* (*continued*).

5. Pl. glauc.—St. tufted without stoles—Ls. short, flat, with very long sheath—Pan. branches short, hispid—Rachis stout—Fl. gl. 3-6—Lig. short—Spike. smaller than 3 or 4.  
*b. Pl. sm. prost.*
6. Ann.—St. short, stout, rigid, usually procumb.—Ls. flat, short, glauc., with inflated sheath—Pan. (1-2 in.) oblanc., compact, secund, gr.—Branches short, rigid.

Gen. XLI. *Festuca*.

\* *Gl. 1 (rarely 3) veined—Annual—Rigid.*

1. Pan. comp. rigid, distichous—Spike. lin. acum.—Upper gl. reaching to base of third floret—Pl. glab. (Comp. *Desmazeria loliacea*, which is a stouter pl.)

\* \* *Perennial, tall—Fl. 3-androns—Fr. free within fl. gl.*

2. Pan. open, drooping—Spike. of 3-8 fl.—Awn long, ovary glab.—Ls. flat.

*b. Fl. few (2-3)—Pan. smaller, more erect.*

3. St. tufted—Pan. diff. drooping, branches divaricate, arching in flower—Gl. acu.—Awn short—Ls. flat, firm, rigid, sheaths rough—Ligule glab.

*b. Pl. rigid, tufted—Pan. branches shorter, scarcely nodding, contracted after flowering.*

*c. Spike. 3-4 fld.—Ls. narrow—Pan. short—The panicle is like pratensis.*

4. Ls. flaccid—Pan. sub-secund, nodding, branches two at each node, unequal—Less branched than 3, and pan. less drooping—Ligule glab.

*b. Pan. close, not divaricate, more distichous—Fl. gl. (4-10) sometimes shortly awned.*

*c. Pan. lin., primary branches bearing only 1 spikelet.*

× *F. adscendens* Retz.—Spike. sol., truly distichous—Awn 0, gl. obt.

5. Rt. fib. stol. sh.—Ls. broad, edges scabrid—Lig. of upp. sheath long—Pan. spread., repeatedly branched, erect, sub-secund—Fl. gl. 3-5—Top of ovary hairy.

*b. Ls. narrow—Fl. gl. 2-3.*

\* \* \* *Perennial—Lower (or all) ls. setac.—Lig. auricled—Spikelets panicked—Fl. 3-androns—Awn short (except occas. in var. of 7).*

6. St. tall, root ls. long, setac., densely tufted—St. ls. flat—Pan. long, lax—Perhaps native in Berks.

7. Soboliferous; cæspitose or loosely tufted—Ls. flat or invol., obtuse—Pan. effuse, sub-secund—Very variable.

*b. Less densely tufted—Rt. ls. filif.—St. ls. flat—Sheaths downy—Pan. pyram., branches spread.—St. many angled, glab. below pan.—Gl. narr.*

*c. Densely cæspitose.*

*d. Spikelets very hairy.*

*e. Rigid, extensively creeping—Ls. all invol.—Gl. broad—Ls. obt.*

*f. Ls. fili., rigid, glauc. acute—Pan. obl., rachis smooth—Sec. gl. subu. lanc.—Fert. gl. narrowed below, often villose.*

ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.   | Common Name.            | Soil<br>or<br>Situation.  | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|-------------------------|---------------------------|-----------|--|
| <b>Gen. XLI. Festuca L.</b><br>( <i>continued</i> ).                |                         |                           |           |  |
| 8. <i>F. ovina</i> L. . . . .                                       | <i>Sheep's Fescue</i> . | Downs, etc. .             | 6-12 in.  | P. 6-7                                   |
| <i>b. paludosa</i> Gaud. (tenuifolia Sibth.)                        | . . . . .               | Peaty pl., etc. .         | . . . . . | . . . . .                                |
| <i>c. supina</i> Hack. . . . .                                      | . . . . .               | Mts. R. . . . .           | . . . . . | . . . . .                                |
| * * * * <i>Vulpia</i> Gmel.   |                         |                           |           |  |
| 9. <i>F. membranacea</i> Druce<br>( <i>F. uniglumis</i> Sol.)       | . . . . .               | Sea coast. L. .           | 6-12 in.  | A. 6-7                                   |
| *10. <i>F. barbata</i> Gaud. . . . .<br>( <i>F. ciliata</i> Danth.) | . . . . .               | W. pl. R. . . .           | 6-9 in.   | A. 6-7                                   |
| <i>b. ambigua</i> (Le Gall) .                                       | . . . . .               | Walls and sand.<br>sh. L. | 4-8 in.   | A. 5-6                                   |
| 11. <i>F. bromoides</i> L. . . . .<br>( <i>F. sciuroides</i> Roth)  | . . . . .               | Dry heathy pl.            | 4-24 in.  | A. 6-8                                   |
| <i>b. intermedia</i> (Hack.) .                                      | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| 12. <i>F. Myuros</i> L. . . . .                                     | <i>Wall F.</i> . . . .  | Walls and dry<br>pl.      | 6-18 in.  | A. 5-7                                   |
| <b>Gen. XLII. Bromus L.</b><br>* <i>Festucoides</i> .               |                         |                           |           |  |
| A.  |                         |                           |           |  |
| 1. <i>B. rigens</i> L. . . . .<br>( <i>B. maximus</i> Desf.)        | . . . . .               | Dry pl. Ch. Is.           | 9-24 in.  | A. 6-7                                   |
| <i>b. rigidus</i> (Roth) . . . .                                    | . . . . .               | Jersey, Sark. .           | 6-12 in.  | . . . . .                                |
| 2. <i>B. sterilis</i> L. . . . .                                    | <i>Barren B.</i> . . .  | W. pl. and cult.<br>gr.   | 1-2 ft.   | A. 6-7                                   |
| *3. <i>B. tectorum</i> L. . . . .                                   | . . . . .               | W. pl. R. . . .           | 9-15 in.  | A. 6-7                                   |
| 4. <i>B. madritensis</i> L. . . .                                   | . . . . .               | Dry pl. R. . . .          | 6-12 in.  | A. 6-7                                   |
| B.  |                         |                           |           |  |
| 5. <i>B. ramosus</i> Huds. . . . .<br>( <i>B. asper</i> L.)         | <i>Hairy B.</i> . . .   | Woods . . . .             | 3-6 ft.   | P. 7-8                                   |
| <i>b. Benekenii</i> (Syme) . . .                                    | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| 6. <i>B. erectus</i> Huds. . . . .                                  | <i>Upright B.</i> . . . | Dry calc. soils .         | 2-3 ft.   | P. 6-8                                   |
| <i>b. glabrifolius</i> Borbas . . .                                 | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| * * <i>Serrafalcus</i> Parl.  |                         |                           |           |  |
| *7. <i>B. secalinus</i> L. . . . .                                  | <i>Rye Br.</i> . . . .  | Cult. gr. . . . .         | 2-3 ft.   | A. 6-7                                   |
| <i>b. velutinus</i> Koch . . . . .                                  | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>c. multiflorus</i> Sm. . . . .                                   | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |
| <i>d. submuticus</i> Reichb. . . .                                  | . . . . .               | . . . . .                 | . . . . . | . . . . .                                |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. XLI. *Festuca* (*continued*).

8. Cæspitose—St. 4-angled, rough below pan.—Ls. all setac., often glauc.—Fl. gl. awned Sheath ent. only at base.

*b. Ls. flaccid—Fl. gl. mucron. = Var. mutica Stokes.*

*c. Pl. small—The sheath ent. for a  $\frac{1}{3}$  of its length—Ls. setaceous, smooth—Pan. sm. narr.—Gl. awned.*

(Many other varieties have been named.)

\* \* \* \* *Annual—Ls. setac.—Pan. contracted—Spikelets secund, racemose or spicate—Fl. gl. awned—Sta. 1-3.*

9. Pan. upright, simp. unilat.—Fl. compress., awned—Lr. gl. obsolete.

10. Ls. invol.—Upper sheath nearly reaching the long narr. erect, close pan.—Gl. very unequal, ciliate—A casual near Brighton = *F. Danthonii*.

*b. Gl. glab.—Upper empty gl. 3-6 times as long as fl.—S. of Engl. and Ch. Isles, R.*

11. St. naked above—Pan. erect-patent, obl.—Gl. less unequal than 10.—Ls. lin.—Upper sheath far distant.

*b. Pan. longer, sheath covering its base.*

12. St. leafy to near base—Upper sheath reaching to the long, narrow slender drooping interrupted panicle.

Gen. XLII. *Bromus*.

\* *Lr. empty gl. 1-nerved, upper 3-nerved—Fl. gl. distant, narrow convex below, keeled and compressed above, 5-nerved—Awn terminal—Sty lat. on ovary.*

*A. Annual.*

1. Pl pubesc. throughout—Pan. erect, lax, ultimately drooping, slightly branched—Spike. long lanc. downy, long stalked after flowering—A beautiful spec.

*b. Pan. compact, sub-erect, ped. very short, upper part of pl. pubescent.*

2. Pan. very lax (6-12 in.), drooping, long branched—Spikelets (2 in.) sub-sol.—Awn (2 in.) lin. lanc.

\*3. St. pubesc.—Pan. drooping, unilat.—Spikelets smaller ( $\frac{1}{3}$ - $\frac{2}{3}$  in.)—Awn short, equalling the outer gl.

4. Pan. erect (2-4 in.), obl. compr.—Spike. ( $\frac{1}{3}$ - $\frac{2}{3}$  in.) lin. lanc.—Sta. usually 2—Awn not longer than fl.—Upper part of pl. scabrid—Lr. glab. or nearly so.

*B. Perennial.*

5. Pan. drooping, secund (3-6 in.) pubesc.—Fl. cylind. remote—Lr. ls. flat, sheath hairy—Lr. pan. branch 2-nate.

*b. Upper sheath glabrate—Lr. pan. branch 3-6-nate.*

6. Pan. sub-erect, strict—Fl. many distant, compressed—Anth. bright yell.

*b. Ls. and gl. glab.*

\* \* *A., B. or P.—Lr. empty gl. 5-, upper 7-9 nerved—Fl. gl. close convex, 5-7 nerved, 2-fid., awned in the sinus—Style inserted below the top of ovary.*

\*7. Pan. slightly branched, loose, spreading—Spike. ov. compress.—Fl. gl. (5-8) loose, not imbricate when mature, terete, scabrid, longer than awn—Upper

*b. Spikelets downy.*

[pales longer than lower.]

*c. Spikelets downy, many flowered.*

*d. Awn very short.*

ORD. XCII.--GRAMINACEÆ (*continued*).

| Botanical Name.                                      | Common Name.           | Soil<br>or<br>Situation. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|------------------------|--------------------------|----------|--|
| <b>Gen. XLII. Bromus L.</b><br>( <i>continued</i> ). |                        |                          |          |  |
| 8. <i>B. racemosus</i> L. . . .                      | <i>Smooth Brome</i> .  | Past., etc. . .          | 1-2 ft.  | B. 6-7                                   |
| <i>b. commutatus</i> (Schr.)                         | . . . .                | . . . .                  | 1-3 ft.  | B.                                       |
| <i>c. multiflorus</i> (Parn.) .                      | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>d. pubescens</i> Druce . .                        | . . . .                | . . . .                  | . . .    | . . .                                    |
| *9. <i>B. arvensis</i> L. . . .                      | <i>Field Br.</i> . .   | Cult. gr. . . .          | 1-3 ft.  | A. 6-8                                   |
| 10. <i>B. hordeaceus</i> L. . .                      | <i>Soft Br.</i> . . .  | Fields, etc. . .         | 1-3 ft.  | A. 5-8                                   |
| ( <i>B. mollis</i> L.)                               |                        |                          |          |  |
| <i>b. glabratus</i> Druce . .                        | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>c. leptostachys</i> (Pers.) .                     | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>d. nanus</i> Druce . . . .                        | . . . .                | . . . .                  | 1-2 in.  | . . .                                    |
| <i>e. Thominii</i> Druce . .                         | . . . .                | . . . .                  | 2-3 in.  | . . .                                    |
| <i>f. molliformis</i> Druce .                        | . . . .                | . . . .                  | 2-8 in.  | . . .                                    |
| ( <i>Lloydianus</i> )                                |                        |                          |          |  |
| 11. <i>B. interruptus</i> Druce .                    | <i>Interrupted Br.</i> | Cult. gr. . . .          | 2-4 ft.  | A. or B.<br>6-7                          |
| *12. <i>B. squarrosus</i> L. . .                     | . . . .                | W. pl. . . .             | 1-2 ft.  | A. 6-8                                   |
| *13. <i>B. japonicus</i> Thunb. .                    | . . . .                | W. pl. . . .             | 9-18 in. | A. 6-8                                   |
| ( <i>B. patulus</i> M. & K.)                         |                        |                          |          |  |
| <b>Gen. XLIII. Brachypodium Beauv.</b>               |                        |                          |          |  |
| 1. <i>B. sylvaticum</i> R. & S.                      | <i>False Brome</i> .   | Woods . . .              | 1-3 ft.  | P. 6-7                                   |
| <i>b. glabrescens</i> Syme . .                       | . . . .                | . . . .                  | . . .    | . . .                                    |
| 2. <i>B. pinnatum</i> Beauv. .                       | . . . .                | Calc. pl. L. . .         | 1-3 ft.  | P. 7-8                                   |
| <i>b. pubescens</i> Gray . .                         | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>c. corniculatum</i> (Lam.)                        | . . . .                | . . . .                  | . . .    | . . .                                    |
| <b>Gen. XLIV. Lolium L.</b>                          |                        |                          |          |  |
| *1. <i>L. temulentum</i> L. . .                      | <i>Darnel</i> . . .    | Cult. gr. R. . .         | 1-2 ft.  | A. 6-7                                   |
| * <i>b. arvense</i> With. . . .                      | . . . .                | . . . .                  | . . .    | . . .                                    |
| *2. <i>L. remotum</i> Schrank. .                     | . . . .                | W. pl. R. . . .          | 6-18 in. | A. 6-7                                   |
| ( <i>L. linicola</i> Soland.)                        |                        |                          |          |  |
| *3. <i>L. multiflorum</i> Lam. .                     | . . . .                | Cult. fie. and w.<br>pl. | 1-2 ft.  | A. 6-7                                   |
| <i>b. compositum</i> (Thuill.)                       | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>c. italicum</i> (Braun) . .                       | <i>Italian Rye Gr.</i> | . . . .                  | 1-3 ft.  | B. 6-7                                   |
| 4. <i>L. perenne</i> L. . . .                        | <i>Rye Grass</i> . .   | Pasts., etc. . .         | 1-2 ft.  | P. 6-8                                   |
| <i>b. tenue</i> (L.) . . . .                         | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>c. compositum</i> Sm. . .                         | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>d. sphærostachyum</i><br>Masters                  | . . . .                | . . . .                  | . . .    | . . .                                    |
| <i>e. aristatum</i> Bab. . . .                       | . . . .                | . . . .                  | . . .    | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XLII. Bromus** (*continued*).

8. Pan. long. erect, usually simp.—Spike ov. obl. (6-10 fld.) glab.—Top. of upper gl.  $\frac{1}{2}$  way to top of 4th fl.—Upper pales shorter than lower.  
*b. Pan. loose, slightly drooping, compound.*  
*c. Like b. but fls more numerous, top of upper gl. rather higher.*  
*d. Like b. but spikelets downy.*
- \*9. Pan. spread. drooping—Lr. pedun. branched—Spike. lanc., compr., pointed—Fl. imbric. in fr.—Pales equal in length, lower 7-ribbed.
10. Pan. erect, close, slightly branched—Spike. ov.; fl. closely imbric., hairy, opaque—Sides of lr. pale bluntly angular about the middle—Top of upper gl.  $\frac{1}{2}$  way to top of 6th fl.—Very variable.  
*b. Spikelets glabrescent—Often mistaken for B. racemosus.*  
*c. Spikelets narrow, shining pelluc. gr.—Cult. fields.*  
*d. Panicles reduced to 2 or 3 spikelets—Plant very sm.—Dry places nr. coast.*  
*e. Plant in prostr. tuft—Panic. oval, compact—Awn shorter than glume—Pales glabresc.*  
*f. Plant prost.—Panic. compact ovate—Awn divaricate—Pales very downy.*
11. Like sp. 10, but pan. erect, strict—Spikelets (more or less compound) in dense sess. interrupted cluster—Upper pale split to base.
- \*12. Pan. drooping, simp.—Spike. ov. lanc. sub-compressed—Fl. nearly glab. imbric.—Lr. pale 9-ribbed—Awn twisted divaricate.
- \*13. Pan. spread. comp., its branches at length reflexed—Spikelets lanc.—Lr. pale 7-ribbed.

**Gen. XLIII. Brachypodium.**

1. Rt. fibr.—Ls. broad—Pan. drooping—Awn as long as gl.  
*b. Spikelets glabrescent.*
2. Rt. cr.—Ls. narr. involute—Pan. sub-erect—Awn shorter than gl.  
*b. Spikelets pubescent.*  
*c. Spikelets curved, divaricate.*

**Gen. XLIV. Lolium.**

- \*1. Ann.—No barren shoots—Spikelets about 6-fld., equalling or shorter than gl.—Lower pale awned—Lig. short.  
*\*b. Spikelets about 4-5 fld. without awns—Very rare.*
- \*2. Ann.—No barr. shoots—St. erect—Spike. slender (7-11 fld.), exceeding the gl.—Lr. pale tumid in fr.
- \*3. Ann.—No barr. shoots—Edges of young ls. invol.—Spike. 9-14 fld.—Lr. pale with long awn.  
*b. Spikes. compound.*  
*c. St densely tufted, with barr. shoots—Young leaves enrolled.*
4. Perenn.—With leafy barr. shoots—Edges of young ls. simply folded—Spike. simp. (6-11 fld.)—Lr. pale without awn.  
*b. Spike. (3-6 fld.)—Ls. slender.*  
*c. Spike. compound.*  
*d. Spike. few fld., sub-spherical.*  
*e. Lower pale awned.*



ORD. XCII.—GRAMINACEÆ (*continued*).

| Botanical Name.   | Common Name.                           | Soil<br>or<br>Situation.        | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|--|---------------------------------|----------|--|
| <b>Gen. XLV. Agropyron</b><br><i>Gaertn.</i>  |  |                                 |          |  |
| 1. <i>A. junceum</i> Beauv. . .   | <i>Jointed Couch Gr.</i>               | Sandy coast .                   | 9-18 in. | P. 6-8                                   |
| <i>b. macrostachyum</i> Druce<br>× <i>repens</i> = <i>A. Hackelii</i><br><i>Druce</i> | . . . . .                              | . . . . .                       | 9-24 in. | . . .                                    |
| 2. <i>A. pungens</i> R. & S. .  | <i>Sharp Couch Gr.</i>                 | Marit. shores .                 | 1-2 ft.  | P. 6-8                                   |
| <i>b. pycnanthum</i> Reichb.  | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>c. aristatum</i> Hack. . .   | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>d. littorale</i> Reichb. . .   | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| 3. <i>A. repens</i> Beauv. . .  | <i>Couch Grass</i><br><i>Twitch</i>    | Cult. fie. . . .                | 1-3 ft.  | P. 6-8                                   |
| <i>b. arvense</i> Schrank. . .  | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>c. dumetorum</i> Gray . .  | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>d. Leersianum</i> Gray<br>( <i>barbatum</i> )                                      | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>e. lasiorachis</i> Hack. . .   | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| <i>f. glaucum</i> Doell. . . .  | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| 4. <i>A. caninum</i> Beauv. . .   | . . . . .                              | Hedges & sh. pl.                | 1-3 ft.  | P. 6-8                                   |
| 5. <i>A. Donianum</i> White .   | . . . . .                              | Mt. cliffs. V. R.<br>Ben Lawers | 1-2 ft.  | P. 7-8                                   |
| <b>Gen. XLVI. Lepturus</b> Br.  |  |                                 |          |  |
| 1. <i>L. filiformis</i> Trin. . .   | <i>Hard Grass</i> . .                  | Sea co. . . . .                 | 4-9 in.  | A. 7-9                                   |
| <b>Gen. XLVII. Nardus</b> L.  |  |                                 |          |  |
| 1. <i>N. stricta</i> L. . . . .   | <i>Matweed</i> . . .                   | Heaths . . . .                  | 2-8 in.  | P. 6-8                                   |
| <b>Gen. XLVIII. Hordeum</b> L.  |  |                                 |          |  |
| 1. <i>H. nodosum</i> L. . . . .   | <i>Barley.</i><br><i>Meadow B.</i> . . | Moi. past. . . .                | 1-2 ft.  | P. 6-7                                   |
| ( <i>H. pratense</i> Huds.)   |  |                                 |          |  |
| 2. <i>H. murinum</i> L. . . . .   | <i>Wall B.</i> . . . .                 | Waysides . . .                  | 6-18 in. | A. 6-7                                   |
| <i>b. arenarium</i> (Bab.) . .  | . . . . .                              | . . . . .                       | . . .    | . . .                                    |
| 3. <i>H. marinum</i> Huds. . .  | <i>Sea B.</i> . . . .                  | Sea co. L. . . .                | 4-12 in. | A. 6-7                                   |
| ( <i>H. maritimum</i> With.)  |  |                                 |          |  |
| <b>Gen. XLIX. Elymus.</b>   |  |                                 |          |  |
| 1. <i>E. arenarius</i> L. . . . .   | <i>Sea-lyme Grass</i>                  | Sandy sh. . . .                 | 2-6 ft.  | P. 7-8                                   |
| 2. <i>E. europæus</i> L. . . . .  | <i>Wood Barley</i> .                   | Calc. wood. L.                  | 1-3 ft.  | P. 6-7                                   |
| ( <i>Hordeum sylvaticum</i> Huds.)  |  |                                 |          |  |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XLV. Agropyron** (*Triticum in part*).

1. Root cr.—Rachis of spike brittle—Spike. lge., shining, empty gl. 5-11 ribbed—Fl. gl. 4-10 obt.—Ls. coriaceous, invol. glauc. glab.
  - b. Spikelets very large, many fld.—Welsh coast.*
  - $1 \times 3$ . *Pl. very variable, glauc. genic. at base—Ls. firm, more or less glauc. and glab.—Gl. with 5-7 slender elevated ribs—Triticum acutum auct. angl. not DC.*
2. Soboliferous—Ls. very scabrous, firm, strongly invol. pungent—Spike close (5-12 fld.)—Gl. acute, rachis with broad internodes.
  - b. Spike shorter, denser—Spike. more compact, much compressed—Gl. and lower pale obt.—Fl. gl. obt. mucro.—Glauc.*
  - c. Lr. pale awned.*
  - d. Gl. acum.—Fl. gl. awned.*
3. Root extens. cr.—Stem sol. hollow—Ls. scabrous—Spike. (5-7 fls.)—Gl. obt. (variable) 5-7 ribbed—Awn variable in length.
 

Many varieties occur; the following are the most interesting:—

  - b. Gl. obl. acu. but not awned.*
  - c. Gl. shortly (1 line) awned.*
  - d. Awns twice length of gl.*
  - e. Rachis of spike. hairy—Devon. etc.*
  - f. Ls. glaucous.*
4. Root fibr.—Spike. (2-5 fl.)—Gl. 3-5 ribbed, acute—Awns long, rough.
5. Pl. erect, soboliferous—Ls. thin, flat, many-ribbed—Spike. (2-6 fl.) shortly awned—Upper pale bluntly pointed, densely asperous, mid-rib well marked.

**Gen. XLVI. Lepturus.**

1. Glabrous—Spike cyl. slend., erect, or prost.—Gl. united at base—Anth. 2-8 mm.

**Gen. XLVII. Nardus.**

1. Densely tufted, glab.—Ls. setaceous, channelled, scaberulous—Spike erect, slender—Spikelets sess. unilat.

**Gen. XLVIII. Hordeum.**

1. Peren.—Gl. all setaceous, rough—Spike compress.—Rootst. creeping.
2. Ann.—Gl. of lat. fl. setaceous, rough; of the middle one lin. lanc. cili.—Spike compress.—Rt. fibr.
  - b. Lr. part of st. buried, branching, and rooting.*
3. Ann.—Gl. scab. inner gl. of lat. fl. half ov.; the rest setaceous—Spike sub-terete, short—Ls. glauc.

**Gen. XLIX. Elymus.**

1. Glauc.—St. stout terete, smooth—Rootst. cr. stolonit.—Ls. rigid, pungent—Pan. erect, stout (6-12 in.), whitish.—Awn o.
2. Bright gr.—St. strict, erect, sm.—Spike sub-terete, scabrid (2-4 in.)—Gl. all subulate, not ciliate, rough—Lat. fl. perfect—Empty gl. long awned.

## ORD. XCIII.—PINACEÆ.

| Botanical Name.                       | Common Name.                | Soil<br>or<br>Situation.  | Growth.    | Duration<br>and<br>time of<br>flowering. |
|---------------------------------------|-----------------------------|---------------------------|------------|--|
| <b>Gen. I. Juniperus L.</b>           | <i>Juniper.</i>             |                           |            |  |
| 1. <i>J. communis</i> L. . . . .      | <i>Juniper</i> . . . . .    | Downs, etc. . . . .       | 1-20 ft.   | Sh. 5-6                                  |
| <i>b. sibirica</i> (Burg.) . . . . .  | <i>Dwarf</i> . . . . .      | Mts. . . . .              | 1-4 ft.    | . . .                                    |
| ( <i>J. nana</i> Willd.)              |                             |                           |            |  |
| <i>c. intermedia</i> (Nym.) . . . . . | . . . . .                   | . . . . .                 | . . .      | . . .                                    |
| <b>Gen. II. Taxus L.</b>              | <i>Yew.</i>                 |                           |            |  |
| 1. <i>T. baccata</i> L. . . . .       | <i>Yew</i> . . . . .        | Woods . . . . .           | 10-50 ft.  | Tr. 3-4                                  |
| <i>b. fastigiata</i> Loud. . . . .    | . . . . .                   | . . . . .                 | . . .      | . . .                                    |
| <b>Gen. III. Pinus L.</b>             | <i>Pine.</i>                |                           |            |  |
| *1. <i>P. Pinaster</i> Ait. . . . .   | <i>Bournemouth<br/>Pine</i> | Sandy soils . . . . .     | 10-40 ft.  | Tr. 5-6                                  |
| 2. <i>P. sylvestris</i> L. . . . .    | <i>Scotch Fir</i> . . . . . | Woods and<br>heaths       | 20-100 ft. | Tr. 5-6                                  |
| <i>b. scotica</i> E. & H. . . . .     | . . . . .                   | Sub-alp. pts. of<br>Scot. | 20-40 ft.  | Tr. 5-6                                  |
| <b>Gen. IV. Larix Mill.</b>           |                             |                           |            |  |
| *1. <i>L. decidua</i> Mill. . . . .   | <i>Larch</i> . . . . .      | Plantat. . . . .          | 20-60 ft.  | Tr. 4-5                                  |
| ( <i>L. europæa</i> DC.)              |                             |                           |            |  |

## ORD. XCIV.—EQUISETACEÆ.

|  |                            |                       |          |        |
|--|----------------------------|-----------------------|----------|--------|
| <b>Gen. I. Equisetum L.</b>                            | <i>Horse-tail.</i>         |                       |          |        |
| *  |                            |                       |          |        |
| 1. <i>E. maximum</i> Lam. . . . .                      | <i>Great H.</i> . . . . .  | Wet places . . . . .  | 3-6 ft.  | P. 4-6 |
| <i>b. serotinum</i> Braun. . . . .                     | . . . . .                  | . . . . .             | . . .    | . . .  |
| <i>c. Braunii</i> (Milde) . . . . .                    | . . . . .                  | . . . . .             | . . .    | . . .  |
| 2. <i>E. arvense</i> L. . . . .                        | <i>Common H.</i> . . . . . | Fie. etc. . . . .     | 6-36 in. | P. 4-5 |
| <i>b. alpestre</i> Wahl. . . . .                       | . . . . .                  | Alp. past. . . . .    | 2-3 in.  | . . .  |
| <i>c. nemorosum</i> Braun. . . . .                     | . . . . .                  | Hedges and sh.<br>pl. | 2-4 ft.  | . . .  |
| × <i>limosum</i> = <i>E. litorale</i><br><i>Kuehl.</i> | . . . . .                  | Peat bogs. V. R.      | 6-18 in. | . . .  |
| 3. <i>E. sylvaticum</i> L. . . . .                     | <i>Wood H.</i> . . . . .   | Peaty woods,<br>etc.  | 6-18 in. | P. 4-5 |
| <i>b. capillare</i> (Hoffm.) . . . . .                 | . . . . .                  | Sh. woods . . . . .   | 2-3 ft.  | P. 4-5 |



## ORD. XCIII.—PINACEÆ = CONIFERÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Juniper.**

1. Ls. lin. mucro., 3 in whorl, spreading, straight, longer than fr., subulate, pungent—Fr. blue-blk.
  - b. Ls. shorter, broader, imbric. incurved, equalling the ripe fr.—St. procumb.*
  - c. An intermediate form, recorded from the Outer Hebrides.*

**Gen. II. Taxus.**

1. Ls. dk. gr., lin. acum., crowded in 2 ranks—Fl. axill. sess.—Fr. surrounded by a pink fleshy arillus.
  - b. Branches fastigate—Ls. scattered, all round stem.*

**Gen. III. Pinus.**

- \*1. Branches stout—Ls. long (4-6 in.)—Cones in clusters of 3-8—Naturalized at Bournemouth.
2. Ls. (3-4 in.) rigid, in pairs—Cones ov. acum., stalked 1-3 together—Nat. in many parts of Britain.
  - b. Ls. 2-3 in.—Cones (1-2 in.)—Scottish glens and moors.*

**Gen. IV. Larix.**

- \*1. Ls. in fascicles, deciduous—Cones ovate, erect—A commonly planted tree.

## ORD. XCIV.—EQUISETACEÆ.

**Gen. I. Equisetum.**

\* *Fert. st. simp. succulent, appearing before whorled barren st.*

1. Barr. st. with about 30 striæ (20-40), pale, smooth—Branches erect; teeth of sheath 2 ribbed.
  - b. Leafy æstival stem also bearing the fruiting spike.*
  - c. Barr. stem deeply grooved.*
2. Barr. st. with about 10-18 striæ, slightly rough—Branches spreading, 4 gonous—Teeth of sheaths acu., with 1 rib reaching to tip—Sheath of fert. st. lax, scarious.
  - b. Barr. st. prost., short (2-3 in.), with secund, sub-erect branches.*
  - c. Barr. st. tall, lax, naked at base, branches very long.*
- 2 × 3. Barr. and fert. st. similar—St. more deeply grooved, and rougher, with a smaller central hollow than *E. limosum*—Surrey.
3. Stems with many whorls of compound deflexed, light gr. solid, branches, sheath with 3-5 deep lobes—(Barr. and fert. st. often sub-similar).
  - b. Barr. st. with many long slender branches of about equal length, branchlets capillary, emerald gr.*

ORD. XCIV.—EQUISETACEÆ (*continued*).

| Botanical Name.   | Common Name.           | Soil<br>or<br>Situation. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|------------------------|--------------------------|-----------|--|
| <b>Gen. I. Equisetum L.</b><br>( <i>continued</i> ).              |                        |                          |           |  |
| 4. <i>E. pratense</i> Ehrh. . . .<br>( <i>E. umbrosum</i> Willd.) | . . . .                | Dp. mt. past. R.         | 9-24 in.  | P. 4-5                                   |
| * *   |                        |                          |           |  |
| 5. <i>E. limosum</i> L. . . .                                     | <i>Smooth-water H.</i> | Ditches, etc. .          | 1-3 ft.   | P. 6-7                                   |
| <i>b. fluviatile</i> (L.) . . .                                   | . . . .                | . . . .                  | . .       | . .                                      |
| <i>c. polystachion</i> (Bruck.)                                   | . . . .                | . . . .                  | . .       | . .                                      |
| 6. <i>E. palustre</i> L. . . .                                    | <i>Marsh H.</i> . .    | Wet pl. . . .            | 1-2 ft.   | P. 6-7                                   |
| <i>b. polystachyum</i> Vill. .                                    | . . . .                | . . . .                  | . .       | . .                                      |
| <i>c. nudum</i> Newm. . . .                                       | . . . .                | . . . .                  | . .       | . .                                      |
| 7. <i>E. hyemale</i> L. . . .                                     | <i>Rough H.</i> . .    | Marshy pl. V. R.         | 1-3 ft.   | B. 7-8                                   |
| <i>b. Moorei</i> (Newm.) . .                                      | . . . .                | Wicklow . . .            | . .       | . .                                      |
| 8. <i>E. trachyodon</i> Braun.                                    | . . . .                | Shady pl. V. R.          | 1-3 ft.   | B. 7-8                                   |
| 9. <i>E. variegatum</i> Sch. . .                                  | <i>Variegated H.</i> . | Sandy pl. . .            | 6-12 in.  | P. 7-8                                   |
| <i>b. majus</i> Syme . . .  | . . . .                | Wet sandy pl. R.         | 12-24 in. | . .                                      |
| <i>c. Wilsoni</i> Milde. . .                                      | . . . .                | Killarney. V. R.         | 2-3 ft.   | . .                                      |

## ORD. XCV.—POLYPODIACEÆ.

|  |                        |                                   |          |        |
|--|------------------------|-----------------------------------|----------|--------|
| <b>Gen. I. Cryptogramme Br.</b>                            |                        |                                   |          |        |
| 1. <i>C. crispa</i> Br. . . .                              | <i>Parsley Fern</i> .  | Slaty rocks in<br>hilly distr. L. | 3-8 in.  | P. 7-8 |
| <b>Gen. II. Pteris L.</b>                                  |                        |                                   |          |        |
| 1. <i>P. aquilina</i> L. . .                               | <i>Bracken</i> . . .   | Heathy pl. . .                    | 2-6 ft.  | P. 7-8 |
| <b>Gen. III. Adiantum L.</b>                               |                        |                                   |          |        |
| 1. <i>A. Capillus-Veneris</i> L.                           | <i>Maidenhair</i> . .  | Moist roc. V. R.                  | 4-12 in. | P. 5-9 |
| <b>Gen. IV. Blechnum L.</b>                                |                        |                                   |          |        |
| 1. <i>B. Spicant</i> With. . .<br>( <i>B. boreale</i> Sw.) | <i>Hard Fern</i> . .   | Woods . . .                       | 4-12 in. | P. 6-7 |
| <b>Gen. V. Phyllitis Hill</b>                              |                        |                                   |          |        |
| 1. <i>P. Scolopendrium</i> Newm.                           | <i>Hart's-tongue</i> . | Sh. pl. . . .                     | 4-24 in. | P. 7-8 |

ORD. XCIV.—EQUISETACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Equisetum** (*continued*).

4. Barr. st. with about 20 striæ (10-20), scabrid—Branches spreading—Teeth of sheath blunt, with 1 rib not reaching to tip—Fertile st. and branches flat-topped—Rare—North Brit.

\* \* *Fert. and barr. stems similar—Branches simp. or o.*

5. Branches very short or o—St. 10-30 striæ; obscurely furrowed—Sheaths short appressed; teeth short rigid.  
*b. Slightly scabrid above, branches longer than internodes.*  
*c. Lat. branches bearing cones.*
6. St. with 4-10 deep furrows—Sheaths loose, teeth wedge-shaped, acu., with membran. tips—Branches hollow.  
*b. Lat. branches long, bearing cones.*  
*c. St. sub-simp., dwarf.*
7. St. simp., hollow, glaucous, very scabrid, biennial—Branches o or sub-radical—Sheath white, with blk. tip and base; teeth blk. with decid. tips.  
*b. St. annual, very rough, sheath loose, teeth truncate, tip white.*
8. St. rough, decumb. or erect, with 8-12 furrows, grey-gr.—Branches radical long, flexuous; sheath close, black—Teeth slender, persist.—Ireland, N. E. Scot.
9. St. decumb., rough, with 4-10 grooves, fili., simp. or with rad. branches—Sheath gr. below, black above, with obt. bristle-pointed teeth.  
*b. St. erect—Teeth of sheath, short acute.*  
*c. Tall, erect—Teeth of sheath, short obt.—St. smoother, with less angular ridges.*

## ORD. XCV.—POLYPODIACEÆ.

**Gen. I. Cryptogramme** (*Allosorus*).

1. Barr. frond bi-tripinn.; pinnules cun., often bifid—Fert. pinn. fusiform.

**Gen. II. Pteris** (*Pteridium*).

1. Fro. coriac. 3-4 pinnate, pinn. lanc., blunt, the lower pinnfid.—Veins free.

**Gen. III. Adiantum.**

1. Fro. 3-4 pinn.—Pinn. round, wedge-shaped, lobed, stalked glab.—Marit. rocks near coast, and in calc. fissures W. Irel.—Rare.

**Gen. IV. Blechnum** (*Lomaria*).

1. Fert. fro. pinn.; pinnæ lin. acu.—Barr. fro. narr. pinnfid., pinnæ lanc. obt.

**Gen. V. Phyllitis** (*Scolopendrium*).

1. Fro. ent., strap-shaped; base cord.



ORD. XCV.—POLYPODIACEÆ (*continued*).

| Botanical Name.  | Common Name.                     | Soil<br>or<br>Situation. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|--|----------------------------------|--------------------------|-----------|--|
| <b>Gen. VI. Asplenium L.</b>   | <i>Spleenwort.</i>               |                          |           |  |
| 1. <i>A. marinum</i> L. . . .  | <i>Sea S.</i> . . . .            | Sea cliffs . . .         | 3-10 in.  | P. 6-9                                   |
| <i>b. acutum</i> Moore . . . .   | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| 2. <i>A. Trichomanes</i> L. . . .                                      | <i>Black Maiden-<br/>hair S.</i> | Rocks, walls,<br>etc.    | 6-12 in.  | P. 5-10                                  |
| <i>b. anceps</i> (Soland.) . . . .                                     | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| [ <i>×</i> . <i>Ruta-muraria</i> = <i>A.</i><br><i>Clermontæ</i> Syme. | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| 3. <i>A. viride</i> Huds. . . . .                                      | <i>Green S.</i> . . . .          | Mt. rocks. L. . .        | 4-9 in.   | P. 6-9                                   |
| 4. <i>A. lanceolatum</i> Huds. . . .                                   | <i>Lanceolate S.</i> . .         | Rocks. R. . . .          | 4-8 in.   | P. 6-9                                   |
| <i>b. obovatum</i> Gren &<br>Godr.                                     | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>c. microdon</i> Moore . . . .                                       | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| *5. <i>A. fontanum</i> Bernh. . . .                                    | . . . . .                        | Walls . . . . .          | 3-5 in.   | P. 6-9                                   |
| 6. <i>A. Adiantum-nigrum</i> L.  | <i>Blk. S.</i> . . . .           | Banks and rocks          | 4-12 in.  | P. 6-10                                  |
| <i>b. obtusum</i> (Kit.) . . . .                                       | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>c. acutum</i> Poll. . . . .   | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>d. Serpentine</i> Tausch . . . .                                    | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| 7. <i>A. Ruta-muraria</i> L. . . .                                     | <i>Wallrue</i> . . . .           | Rocks and walls          | 1-4 in.   | P. 6-10                                  |
| <i>b. pseudo-germanicum</i><br>Milde.                                  | . . . . .                        | Shady rocks . .          | . . . . . | . . . . .                                |
| 8. <i>A. septentrionale</i> Hoffm.                                     | . . . . .                        | Rocks. V. R. . .         | 1-4 in.   | P. 6-10                                  |
| <i>b. germanicum</i> (Weiss)   | . . . . .                        | Rocks. V. R. . .         | 1-4 in.   | P. 6-10                                  |
| <b>Gen. VII. Athyrium Roth.</b>  |                                  |                          |           |  |
| 1. <i>A. Filix-fœmina</i> Roth.  | <i>Lady Fern</i> . . .           | Woods, etc. . .          | 1-5 ft.   | P. 7-8                                   |
| <i>b. erectum</i> Syme . . . .   | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>c. Watsoni</i> Syme . . . .   | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>d. convexum</i> Newm. . . . .                                       | . . . . .                        | Heathy pl. . . .         | . . . . . | . . . . .                                |
| 2. <i>A. alpestre</i> Milde . . . .                                    | . . . . .                        | Sc. mts. . . . .         | 1-3 ft.   | P. 7-8                                   |
| ( <i>Polypypodium alpestre</i><br><i>Hoppe</i> )                       | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>b. flexile</i> (Milde). . . . .                                     | . . . . .                        | Sc. mts. V. R.           | . . . . . | . . . . .                                |
| <i>c. obtusatum</i> Syme . . . .                                       | . . . . .                        | . . . . .                | 6-9 in.   | . . . . .                                |
| <b>Gen. VIII. Polystichum</b><br><i>Roth.</i>                          |                                  |                          |           |  |
| 1. <i>P. angulare</i> Presl. . . . .                                   | . . . . .                        | Woods and<br>hedges      | 1-3 ft.   | P. 7-8                                   |
| <i>b. hastulatum</i> Kunze . . . .                                     | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>c. alatum</i> Moore . . . . .                                       | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |
| <i>d. gracile</i> Wollaston . . . .                                    | . . . . .                        | W. of Eng. . . .         | . . . . . | . . . . .                                |
| 2. <i>P. aculeatum</i> Roth. . . .                                     | <i>Prickly Shield F.</i>         | Woods and<br>banks       | 1-2 ft.   | P. 7-8                                   |
| <i>b. lobatum</i> (Presl) . . . .                                      | . . . . .                        | . . . . .                | . . . . . | . . . . .                                |

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. VI. Asplenium.**

1. Fro. obl. lanc., pinn., coriac.; pinnæ obl. crenate—Rachis winged.  
*b. Larger—Pinnæ acute—W. of Engl.*
2. Fro. lin. pinnate; pinnæ roundish obl.—Rachis blk. below, glossy red-br. above.  
*b. Pinnæ larger, and more deeply cut.*  
*2 × 7. Fro. lin. simp. pinn.—Veins divergent—Newry, extinct.]*
3. Fro. lin. pinnate; pinnæ roundish ov. obl. cren., pale gr.—Rachis green.
4. Fro. broadly lanc. bipinn. membran.—Pinn. obov., acu., serr.—Sori rounded.  
*b. Fro. short, segm. rounded, crenulate or feebly toothed.*  
*c. Resembles A. marinum—Pinnæ undulated, lower distant, upper narrower.*
- \*5. Fro. lin. lanc. bipinn.—Pinnæ obl. ov.—Pinnules obov. cun., with spinous mucro. teeth—A garden escape—Plant erect or slightly spreading.
6. Fro. triang., bi-tri. pinn.—Pinnules cun., deeply serr. or toothed—Sori lin. or obl.  
*b. Pinna triang.—Ultimate segm. broad obtuse—Basal pinnules contiguous.*  
*c. Lower pinnæ triang. acum.—Seg. narr. very acute—Fro. long, graceful, often paler gr.—W. of Brit. and Ireland.*  
*d. Pinn. broad, triang.; lobes blunt—Cabrach, Aberdcen.*
7. Fro. ov., bi-pinn. below—Pinnæ cun., lobed at apex.  
*b. Pinnæ narr. obl., lobes remote.*
8. Fro. lin. lanc., coriac., 2-3 cleft—Seg. alt., lanc., toothed—Veins forked.  
*b. Fro. lin. pinn.—Pinn. alt., narr. cun., toothed above—Probably a hybrid of 7 × 8—Pl. less rigid than 8—Usually on slaty rocks.*

**Gen. VII. Athyrium.**

1. Fro. obl. lanc., flaccid, bi-pinn.—Pinnules lin. obl.; deeply serr., lobed or pinnfid., sharply toothed, close set, sub-sess.  
*b. Sub-erect, frond more abrupt at base, stipes often vinous red.*  
*c. Tall, stout, frond tripinn. deeply cut, tapering towards apex, base abrupt—Pinn. flat.*  
*d. Pinnules convex, remote—Usually paler gr.—Stipes often vinous red.*
2. Fro. obl. lanc. flaccid bi-pinn.—Pinnules deeply pinnfid., lobes toothed—Very like sp. 1, but the sori are circ. without any indusium—The plant is confined to Scotland.  
*b. Fro. lin. lanc. bipinn.—Pinnæ short spreading or deflexed, pinnules rather dist.—Stipe very short—Forfar, Perth, Inverness, etc.*  
*c. Like type—Pinn. oval. obl. approximate, obt. flat.*

**Gen. VIII. Polystichum (*Aspidium in part*).**

1. Fro. ov. lanc. 2-3 pinnate—Sub-membran.—Pinnules sm. petioled, lax—Teeth lge. awned.  
*b. Pinn. broad, deeply pinnfid.; not decurr.*  
*c. Pinn. broad, spin. serr., decurrent on posterior side.*  
*d. Pinn. narr. inciso-serr., not decurrent.*
2. Fro. lanc. bi-tripinn.—Pinnules ov., sub-falc., auricled, sessile—Serratures spinulose.  
*b. Fro. bi-pinn.—Pinnules very rigid sess., decurrent—Confluent below.*

ORD. XCV.—POLYPODIACEÆ (*continued*).

| Botanical Name.   | Common Name.                                   | Soil<br>or<br>Situation. | Growth.   | Duration<br>and<br>time of<br>flowering. |
|---|--|--------------------------|-----------|--|
| <b>Gen. VIII. Polystichum</b><br><i>Roth (continued).</i>   |  |                          |           |  |
| 3. <i>P. Lonchitis</i> L. . . .                             | <i>Holly Fern</i> . . .                        | Mts. L. . . .            | 6-18 in.  | P. 6-8                                   |
| <b>Gen. IX. Dryopteris</b> <i>Adans.</i>                    |  |                          |           |  |
| 1. <i>D. Filix-mas</i> Schott. . .                          | <i>Male F.</i> . . .                           | Woods, etc. . .          | 1-3 ft.   | P. 7-8                                   |
| <i>b. affinis</i> Newm. . . .                               | . . . .  | . . . .                  | . . .     | . . .                                    |
| <i>c. paleacea</i> Druce . . .                              | . . . .  | . . . .                  | . . .     | . . .                                    |
| ( <i>Borreri</i> Newm.)                                     |  |                          |           |  |
| <i>d. abbreviata</i> Druce . . .                            | . . . .  | Mt. pl. . . .            | 9-12 in.  | P.                                       |
| <i>e. pumila</i> (Moore) . . .                              | . . . .  | . . . .                  | . . .     | . . .                                    |
| × <i>spinulosa</i> = <i>D. remota</i><br><i>Br.</i>         | . . . .  | Sh. pl. V. R. . .        | 1-2 ft.   | P. 8-9                                   |
| 2. <i>D. cristata</i> Gray . . .                            | <i>Crested F.</i> . . .                        | Bogs. R. . . .           | 1-2 ft.   | P. 7-8                                   |
| × <i>spinulosa</i> = <i>D. uliginosa</i><br><i>Kuntze</i>   | . . . .  | Bogs. V. R. . .          | 1-2 ft.   | P. 7-8                                   |
| 3. <i>D. spinulosa</i> Kuntze . .                           | . . . .  | Moi. woods. . .          | 1-3 ft.   | P. 7-9                                   |
| <i>b. glandulosa</i> Druce . . .                            | . . . .  | . . . .                  | . . .     | . . .                                    |
| (? a hybrid 3 × 4)  |  |                          |           |  |
| 4. <i>D. aristata</i> Druce . . .                           | . . . .  | Woods, etc. . .          | 1-4 ft.   | P. 7-9                                   |
| ( <i>Lastrea dilatata</i> Presl)                            |  |                          |           |  |
| <i>b. collina</i> (Newm.) . . .                             | . . . .  | . . . .                  | . . .     | . . .                                    |
| 5. <i>D. æmula</i> Kuntze . . .                             | <i>Fragrant F.</i> . .                         | Shady pl. R. . .         | 1-2 ft.   | P. 8-9                                   |
| 6. <i>D. rigida</i> Underwood . .                           | <i>Rigid</i> . . . .                           | Calc. mt. R. . .         | 12-18 in. | P. 7-8                                   |
| 7. <i>D. montana</i> Kuntze . . .                           | <i>Mountain F.</i> . .                         | Heaths, etc. . .         | 1-2 ft.   | P. 7-8                                   |
| ( <i>Last. Oreopteris</i> Presl)                            |  |                          |           |  |
| 8. <i>D. Thelypteris</i> Gray . .                           | <i>Marsh F.</i> . . .                          | Bogs . . . .             | 1-2 ft.   | P. 7-8                                   |
| <b>Gen. X. Cystopteris</b> <i>Bernh.</i>                    |  |                          |           |  |
| 1. <i>C. montana</i> Bernh. . . .                           | <i>Bladder Fern.</i><br><i>Mt. B. F.</i> . . . | Mt. cliffs. V. R.        | 4-9 in.   | P. 7-8                                   |
| 2. <i>C. fragilis</i> Bernh. . . .                          | <i>Brittle B. F.</i> . .                       | Rocky pl. . . .          | 4-8 in.   | P. 7-8                                   |
| <i>b. dentata</i> (Hook.) . . .                             | . . . .  | Rocky pl. . . .          | . . .     | . . .                                    |
| <i>c. Dickieana</i> (Sim) . . .                             | . . . .  | Sea cave. V. R.          | . . .     | . . .                                    |
| <i>d. regia</i> (Presl.) = <i>C.</i><br><i>alpina</i> Desv. | . . . .  | Rocky pl. V. R.          | 1-4 in.   | . . .                                    |
| <b>Gen. XI. Polypodium</b> L.                               |  |                          |           |  |
| 1. <i>P. vulgare</i> L. . . . .                             | <i>Polypody</i> . . . .                        | Trees, etc. . . .        | 4-12 in.  | P. 6-9                                   |
| <i>b. serratum</i> Willd. . . .                             | . . . .  | . . . .                  | . . .     | . . .                                    |
| <i>c. cambricum</i> Willd. . . .                            | . . . .  | . . . .                  | . . .     | . . .                                    |



## CHARACTERISTICS OF SPECIES AND VARIETIES.

Gen. VIII. *Polystichum* (*continued*).

3. Fro. lin. lanc. pinn. rigid, coriaceous.—Pinnæ lanc. falc. serr., lower auricled.

Gen. IX *Dryopteris*. (*Lastrea* = *Nephrodium* = *Aspidium* *p.p.*)

1. Fro. ov. lanc., pinn.—Pinnæ lin. lanc.—Pinnules obl. blunt, serr., not spinulose, lower distinct—Involucre convex eglandular, sori near the mid-vein.  
*b. Pinnules obl.-lanc. incised, less crowded.*  
*c. St. covered with golden yell. scales—Pinnules truncate, sub-entire at sides.*  
*d. Fro. pinn.—Pinnæ pinnfid. or cren. obl. obt. crowded with one row of sori nr. base.*  
*e. Dwarf—Scales numerous and dark—Underside of fro. covered with minute glands.*  
 1 × 3. Rhizome tufted—Fr. narr. lanc.—Pinnæ triang.-lanc.—Pinnules acute ov. obl. cut  $\frac{1}{2}$  way to rachis, eglandular beneath, lower only free—Scales lanc. concolorous—*Windermere, Lomond.*
2. Fro. lin. obl., erect, pinn.—Pinnæ short, distant, deeply obtusely lobed, toothed, attached by broad base—Invol. flat egland.  
 2 × 3. Pinnules more divided; teeth slightly spinulose.
3. Fro. pale gr. lanc. pinn.—Pinnæ pinnfid.—Pinnules acute serr. spinulose—Scales on st. ov. concolorous—Invol. not gland cili.  
*b. Fro. gland. beneath, broad—Scale slightly darker in centre.*
4. Fro. dk. gr. ov. triang. bipinn.—Pinnules serr. spinulose—Scales on st. lanc. acum., centre dk. br.—Invol. gl. cili.  
*b. Pinnules ov. sub-entire—Fr. obl. lanc.*  
 (Many varieties of 1, 3, and 4 have been described.)
5. Fro. ov. triang., bi-pinn. concave and curved upwards—Pinnules obl. ov. lobed, their margins recurved—Fragrant of hay—W. of Br. and Irel.
6. Fro. obl. lanc., bi-pinn., gland.; pinnules obl., blunt, serr., not spinulose—Stalk covered with chaffy scales—Wales and North Eng.
7. Fro. pinn.—Pinnæ pinnfid., glandular, sweet scented; gradually decreasing from middle of fro.—Rt. tufted—Sori near the margin of lobe.
8. Fro. pinn.—Pinnæ pinnfid., not glandular—Lower pinnæ not shorter than upper—Rt. creeping.

Gen. X.—*Cystopteris*.

1. Fro. triang. tri-pinn., on long stalks—Lower pinnæ the largest—Rootstock creeping.
2. Fro. ov. lanc., bi-pinn.; pinnules ov., ac. lobed or toothed—Sori central.  
*b. Pinnæ ov. lanc. obt., obtusely toothed—Sori sub-marginal.*  
*c. Fro. ov. obl. obt. membran.—Pinnæ ov. obt. sub-deflexed—Segm. broad overlapping—Sori marginal.*  
*d. Fro. quadri-pinnfid.—Seg. cut nearly to mid-rib—Teesdale, Wales?*

Gen. XI. *Polypodium*.

1. Fro. deeply pinnfid.—Pinnæ lanc., cren.  
*b. Pinnæ serrate.*  
*c. Pinnæ doubly pinnfid.*

ORD. XCV.—POLYPODIACEÆ (*continued*).

| Botanical Name.  | Common Name.                          | Soil<br>or<br>Situation. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|--|---------------------------------------|--------------------------|----------|--|
| <b>Gen. XII. Phegopteris</b> <i>Fée</i>  |                                       |                          |          |  |
| 1. <i>P. Polypodioides</i> <i>Fée</i> . . .<br>( <i>Polyp. Phegopteris</i> <i>L.</i> ) | <i>Beech Fern</i> . . .               | Sh. pl. . . .            | 4-10 in. | P. 6-8                                   |
| 2. <i>P. Dryopteris</i> <i>Fée</i> . . .   | <i>Oak F.</i> . . .                   | Dry sh. pl. . .          | 4-12 in. | P. 7-8                                   |
| 3. <i>P. Robertiana</i> <i>Braun</i> . . .<br>( <i>Polyp. calcareum</i> <i>Sm.</i> )   | <i>Limestone Poly-</i><br><i>pody</i> | Calc. roc. . .           | 6-12 in. | P. 7-8                                   |
| <b>Gen. XIII. Ceterach</b> <i>Adans.</i>   |                                       |                          |          |  |
| 1. <i>C. officinarum</i> <i>DC.</i> . . .  | <i>Rustyback F.</i> . .               | Rocks & walls.           | 4-6 in.  | P. 4-10                                  |
| <i>b. crenatum</i> <i>Milde.</i> . . .   | . . . . .                             | . . . . .                | . . .    | . . .                                    |
| <b>Gen. XIV. Gymno-</b><br><b>gramme</b> <i>Desv.</i>                                  |                                       |                          |          |  |
| 1. <i>G. leptophylla</i> <i>Desv.</i> . .  | <i>Jersey F.</i> . . .                | Banks . . . .            | 1-3 in.  | A. 3-5                                   |
| <b>Gen. XV. Woodsia</b> <i>Br.</i>   |                                       |                          |          |  |
| 1. <i>W. ilvensis</i> <i>Br.</i> . . . .   | . . . . .                             | Mt. cliffs. V. R.        | 3-6 in.  | P. 7-8                                   |
| 2. <i>W. alpina</i> <i>Gray</i> . . . .  | . . . . .                             | Mt. cliffs. V. R.        | 3-6 in.  | P. 7-8                                   |
| ( <i>W. hyperborea</i> <i>Br.</i> )  |                                       |                          |          |  |

## ORD. XCVI.—HYMENOPHYLLACEÆ.

|  |                         |                        |          |        |
|--|-------------------------|------------------------|----------|--------|
| <b>Gen. I. Trichomanes</b> <i>L.</i>   |                         |                        |          |        |
| 1. <i>T. radicans</i> <i>Sw.</i> . . . .   | <i>Killarney Fern</i>   | Wet shady pl.<br>V. R. | 4-12 in. | P. 6-9 |
| <i>b. Andrewsii</i> <i>Newm.</i> . . .   | . . . . .               | . . . . .              | . . .    | . . .  |
| <b>Gen. II. Hymenophyllum</b><br><i>L.</i>                                       |                         |                        |          |        |
| 1. <i>H. tunbrigense</i> <i>Sm.</i> . . .  | <i>Filmy Fern</i> . . . | Dp. rock. L. . .       | 1-3 in.  | P. 6-7 |
| 2. <i>H. peltatum</i> <i>Desv.</i> . . .   | <i>Filmy Fern</i> . . . | Dp. rock. L. . .       | 1-3 in.  | P. 6-7 |
| ( <i>H. Wilsoni</i> <i>Hook.</i> = <i>H.</i><br><i>unilaterale</i> <i>Bory</i> ) |                         |                        |          |        |

## ORD. XCVII.—OSMUNDACEÆ.

|  |                         |                 |         |        |
|--|-------------------------|-----------------|---------|--------|
| <b>Gen. I. Osmunda</b> <i>L.</i>       |                         |                 |         |        |
| 1. <i>O. regalis</i> <i>L.</i> . . . . | <i>Royal Fern</i> . . . | Boggy pl. . . . | 1-6 ft. | P. 6-8 |

ORD. XCV.—POLYPODIACEÆ (*continued*).

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. XII. Phegopteris.**

1. Fro. obl. pinn.—Pinnæ pinnfid., the lowest deflexed—Seg. lin. lanc. obt. cili.
2. Fro. deltoid. tern. pinn., flaccid—Pinnæ pinnfid.
3. Fro. sub-tern. pinn. coriac., gland. pubesc.—Pinnæ pinnfid.

**Gen. XIII. Ceterach.**

1. Fro. pinnfid.—Pinnæ ov. obl., covered beneath with chaffy scales.  
*b. Pinnæ deeply crenate—Ireland.*

**Gen. XIV. Gymnogramme.**

1. Fro. bi-pinnfid.—Pinnæ obov., cun., bifid or 3-lobed ; lobes obl.—Annual.

**Gen. XV. Woodsia.**

1. Fro. broadly lanc. pinn.—Pinnæ obl. deeply pinnfid. with obl. sub-cren. lobes.
2. Fr. lin. lanc.—Pinnæ ov., with few broad ent. lobes.

(A very large number of Fern varieties have been named. The works of Lowe and Moore should be consulted.)

## ORD. XCVI.—HYMENOPHYLLACEÆ.

**Gen. I. Trichomanes.**

1. Fro. triang. glab. translucent, 3-4 pinnfid.—Seg. lin. ent. memb.—Rootstock cr.—Very rare—Ireland, Cornw. (?), Carnarvon, [Yorks.].  
*b. Fro. lanc.—Invol. winged.*

**Gen. II. Hymenophyllum.**

1. Fro. pinn.—Pinnæ spreading—Invol. serr.
2. Fro. pinn.—Pinnæ deflexed—Invol. ent.

## ORD. XCVII.—OSMUNDACEÆ.

**Gen. I. Osmunda.**

1. Fro. bi-pinn.—Pinnæ obl. ov. serr., lower auricled.



## ORD. XCVIII.—OPHIOGLOSSACEÆ.

| Botanical Name.                   | Common Name.          | Soil<br>or<br>Situation.     | Growth. | Duration<br>and<br>time of<br>flowering. |
|-----------------------------------|-----------------------|------------------------------|---------|--|
| <b>Gen. I. Botrychium Sw.</b>     |                       |                              |         |  |
| 1. <i>B. Lunaria Sw.</i> . . .    | <i>Moonwort</i> . . . | Heathy past.,<br>etc.        | 1-6 in. | P. 6-8                                   |
| <i>b. incisum Milde.</i> . . .    | . . . . .             | Very rare. N.<br>Br.         | . . .   | . . .                                    |
| <b>Gen. II. Ophioglossum L.</b>   |                       |                              |         |  |
| 1. <i>O. vulgatum L.</i> . . .    | <i>Adder's-tongue</i> | Moi. past. . . .             | 2-8 in. | P. 6-8                                   |
| <i>b. polyphyllum Braun.</i>      | . . . . .             | Sea co. R. . . .             | 1-2 in. | . . .                                    |
| 2. <i>O. lusitanicum L.</i> . . . | . . . . .             | Turf on sea<br>cliffs. V. R. | 1-2 in. | P. 1-4                                   |

## ORD. XCIX.—MARSILIACEÆ.

|                                   |                         |                       |         |        |
|-----------------------------------|-------------------------|-----------------------|---------|--------|
| <b>Gen. I. Pilularia L.</b>       |                         |                       |         |        |
| 1. <i>P. globulifera L.</i> . . . | <i>Pillwort</i> . . . . | Peaty pool<br>margins | 2-4 in. | P. 5-7 |

## ORD. C.—ISOETACEÆ.

|                                   |                        |  |         |        |
|-----------------------------------|------------------------|--|---------|--------|
| <b>Gen. I. Isoetes L.</b>         |                        |  |         |        |
| 1. <i>I. lacustris L.</i> . . .   | <i>Quillwort</i> . . . | Lake bottoms.<br>L.                        | 2-6 in. | P. 5-7 |
| <i>b. falcata Tausch.</i> . . .   | . . . . .              | . . . . .                                  | . . .   | . . .  |
| <i>c. Morei Syme</i> . . . .      | . . . . .              | . . . . .                                  | . . .   | . . .  |
| 2. <i>I. echinospora Dur.</i> . . | . . . . .              | Peaty lake<br>bottoms. R.                  | 2-6 in. | P. 5-7 |
| 3. <i>I. hystrix Dur.</i> . . . . | . . . . .              | Moist grassy pl.<br>Guernsey,<br>Alderney. | 1-3 in. | P. 5-7 |

## ORD. XCVIII.—OPHIOGLOSSACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Botrychium.**

1. Fro. sol. pinn.—Pinnæ fan-shaped, cren.—Blade about middle of frond.  
*b. Margin of pinnæ deeply and irregularly incised.*

**Gen. II. Ophioglossum.**

1. Fro. ent. ov. obt.—Spike club-shaped—Spores tubercled.  
*b. Pl. 1-2 in.—Fro. lin. obt. = O. ambiguum C. & G.*
2. Pl. very sm.—Rootstock more tuberous—Fro.  $\frac{1}{2}$ -1 in. obl. or lanc.—Spike  $\frac{1}{4}$ - $\frac{1}{2}$  in.  
 —Spores smooth—Guernsey, Alderney.

## ORD. XCIX.—MARSILIACEÆ.

**Gen. I. Pilularia.**

1. Rhizome slender, cr.—Ls. fili., erect—Fr. pill-shaped.

## ORD. C.—ISOETACEÆ.

**Gen. I. Isoetes.**

1. Aquatic—Ls. subu. bluntly quadrang., erect, dark gr.—Brittle tubercles of macrospores short—Sporang.  $\frac{1}{2}$  covered by leaf sheath.  
*b. Ls. falcate.*  
*c. Ls. very long (18 in.) and slender—Wicklów.*
2. Aquatic—Ls. spreading, pale gr.—Sporang. nearly covered by leaf sheath—  
 Tubercles of macrospores longer, more acute—Ls. flexible.
3. Terrestr.—Ls. filiform—Macrospores obtusely tubercled.

## ORD. CI.—LYCOPODIACEÆ.

| Botanical Name.   | Common Name.              | Soil<br>or<br>Situation. | Growth.  | Duration<br>and<br>time of<br>flowering. |
|---|---------------------------|--------------------------|----------|--|
| <b>Gen. I. Lycopodium L.</b>                                  | <i>Club-moss.</i>         |                          |          |  |
| 1. <i>L. alpinum L.</i> . . . .                               | <i>Alpine C.</i> . . . .  | Mounts. . . . .          | 3-15 in. | P. 6-8                                   |
| <i>b. decipiens Syme</i><br>( <i>L. complanatum St. Fl.</i> ) | . . . . .                 | . . . . .                | . . .    | . . .                                    |
| 2. <i>L. annotinum L.</i> . . . .                             | <i>Interrupted C.</i> . . | Mts. R. . . . .          | 6-18 in. | P. 7-8                                   |
| 3. <i>L. clavatum L.</i> . . . .                              | <i>Common C.</i> . . . .  | Heath, etc. . . .        | 1-3 ft.  | P. 6-8                                   |
| 4. <i>L. inundatum L.</i> . . . .                             | <i>Marsh C.</i> . . . .   | Moi. heaths . . .        | 2-6 in.  | P. 6-8                                   |
| 5. <i>L. Selago L.</i> . . . . .                              | <i>Fir C.</i> . . . . .   | Heath and mts.           | 2-6 in.  | P. 6-8                                   |
| <i>b. recurvum Desv.</i> . . .                                | . . . . .                 | . . . . .                | . . .    | . . .                                    |

## ORD. CII.—SELAGINELLACEÆ.

|                                    |           |                 |         |        |
|------------------------------------|-----------|-----------------|---------|--------|
| <b>Gen. I. Selaginella Beauv.</b>  |           |                 |         |        |
| 1. <i>S. Selaginoides Link</i> . . | . . . . . | Moist turfy pl. | 1-6 in. | P. 6-8 |

## ORD. CIII.—SALVINIACEÆ.

|                                 |           |               |       |       |
|---------------------------------|-----------|---------------|-------|-------|
| <b>Gen. I. Azolla Lam.</b>      |           |               |       |       |
| 1. <i>A. caroliniana Willd.</i> | . . . . . | Still water . | Flo.  | 6-10  |
| 2. <i>A. filiculoides Lam.</i>  | . . . . . | . . . . .     | . . . | . . . |



## ORD. CI.—LYCOPODIACEÆ.

## CHARACTERISTICS OF SPECIES AND VARIETIES.

**Gen. I. Lycopodium.**

1. St. long, cr.—Ls. in 4 rows, obl. keeled, acu. adpr.—Spike sol. sess.  
*b. Stem flattened, broader—Ls. dimorphic, centr. ones on flattened stem more erect and narrower than the lateral.*
2. St. long cr., branches constricted here and there—Ls. scattered, lanc. mucro. serr.—Spike sol. sess.
3. St. long cr.—Ls. scattered, incurved, hair-pointed—Spike 2-3 stalked.
4. St. short cr., closely appressed to ground—Ls. secund, scattered, lin. acu., curved upwards—Spike sol. sess.
5. St. not cr., erect, forked, fastigiate—Ls. in 8 rows, lin. lanc. acu., imbric.—Caps. not spiked but axillary in upper ls.  
*b. Ls. longer, spreading, or reflexed.*

## ORD. CII.—SELAGINELLACEÆ.

**Gen. I. Selaginella.**

1. St. cr., slender—Ls. lanc. cili.—Spikes on short erect branches.

## ORD. CIII.—SALVINIACEÆ.

**Gen. I. Azolla** *Lam. (American species now naturalized.)*

1. Flo. aquatic, covering surface of ponds, lakes, etc.—Plant small, ramifications appressed to surface of water—Upper lobes with no or only slight margin—Hairs bicellular—Glochidia septate throughout.
2. Do. do.—Upper lobes turned upwards—Hairs unicellular—Glochidia without septa, or in var. *rubra* with 1 or 2 septa at summit.



## APPENDIX I

The times of flowering, the dimensions of plants, the colour of flowers refer to average specimens; earlier or later flowering plants occur, as do taller or shorter examples, or white or other variants of colour in the flowers.

- P. 4, n. 3. *Ranunculus auricomus*, var. *b. incisifolius* Reichb.—*Upper ls. broader and coarsely serrate.*  
*Jar. c. reniformis* Kittel—*Lr. ls. reni., cut into 3 overlapping or contig. segm.*
- P. 4, n. 4. *R. bulbosus* L., var. *b. dunensis* Dr.—*Pl. sm., very hairy—Fl. lge. (2.5–2.8 cm.)—Ped. short—Dunes, Jersey.—(It is probable that the R. Aleae of the Camb. Br. Fl. belongs to this variety.)*
- P. 4, n. 11. *R. Flammula* L., var. *alismifolius* Glaab.—*Ls. broad (2.5–3 cm.).*
- P. 4, n. 15 bis. *R. sphaerospermus* Boiss. & Bl.—*Fl. lge. white, pl. entirely submerged, no floating ls., segm. rather rigid, spreading in a semi-globose shape, not as in circinatus in a smaller and flatter plane; carpel hairy—Slow waters.*
- P. 4, n. 16. *R. trichophyllus*, var. *radians* (Revel)—*Floating ls., rather thick, coriaceous, sub-circ., deeply divided into cuneate segm. with straight-sided sinuses; submerged ls., dark green, segm. diverging, smaller than in triphyllus; fl. larger than type but smaller than in heterophyllus.*
- P. 6, n. 18. *R. heterophyllus*, var. *submersus* Bab.—*Wholly submerged; leaf-segm. long, robust, sub-collapsing; fr. ped. short; stamens many; recept. ovoid.*
- P. 6, n. 21. *R. Lenormandi* × *R. peltatus* = *R. Hiltoni* Gr., like 21 in rooting habit shape of fl., ls., and no. of sta.; and n. 17 in shape and size of petals and hairy recept.—*Sussex.*  
 (For a more complete account of the Water-Buttercups, see Pearsall in B.E.C. 423, 1918, and B.E.C. 811, 1928.)
- P. 6, n. 22. *Aquilegia alpina* L.—*Ls. small, spur nearly straight (in vulgaris curved and enrolled), fl. large, showy.—Caenlochan., Forfar; perhaps introduced.*
- P. 10, n. 1. *Castalia alba*, var. *occidentalis* Ostenf.—*Ovary with naked space between base of sta. and stigma.—The whole pl. smaller than type, but seeds larger (3–3.5 mm.)—Lakes Sc., Wa., and W. of I.*
- P. 10, n. 2. *Papaver Rhoeas*, var. *c. Pryorii* Dr.—*Pedunc. hairs spreading, crimson.*  
*Var. d. chelidonioides* O.K., as type, but sap yellow.—*Lincoln; perhaps a hybrid with Lecoqii.*  
*Var. e. caudatifolium* Fedde.—*Terminal lobe of ls. prolonged, nearly entire.*  
*Var. f. trifidum* Fedde.—*Ls. often trifid or trisected; segm. feebly dentate.*  
*Var. g. subintegrum* Fedde.—*Ls. often subentire—a slender pl.*  
*Var. h. omphalophorum* Fedde.—*Caps. not stipitate, disc sub-pyramidal, umbilicate.*



## Fumaria L.

- F. occidentalis* Pugsl.—*Ls. segm.*, flat—*St. robust*, up to 2 m.—*Sep.*  $4-5\frac{1}{2} \times 2-3$  mm.,  $\frac{1}{3}$  length of long cor.—*Lr. pet.* with spreading and broad marg., reaching to and a little dilated at the apex.—*Cor.* rosy wh., 12–14 mm. long, showy, tipped, as are the inner pet. and the wings of the upper one, with blackish-red—*Fr.* sub-rotund,  $3 \times 3$  mm., rugose, with shallow apical pits, beneath each of which is conspic. tuberc.—Cornwall.
- F. capreolata* L.—*St.* up to 1–2 m.—*Rac.* dense (up to 20 fl.)—*Cor.* creamy-wh., 10–13 mm.—*Inner pet.* tipped with bl.-red, as are the wings of upper one, the wings not covering keel—*Fr. ped.* arcuately recurved—*Bracts* a little shorter than fruiting ped.—*Fr.* small, smooth, sm. (2.5 mm.) with well-marked apical pits.
- Var. *b. Babingtonii*, Pugsl.—*Bracts* about as long as fr. ped.—*Cor.* less brightly coloured.—*Upper pet.* very narrow—*Wings* shorter than the attenuate acute keel—*Fr. truncate*,  $2.5 \times 2$  mm.—When dry obsc. rugulose.
- Var. *c. devoniensis* Pugsl.—*Fl.* as in *b*, but more suffused with pink—*Fr.* sub-rotund, rounded obt., narrowed below 2.5 mm.
- F. purpurea* Pugsl.—*Rac.* not dense, about as long as ped.—*Fr. ped.* patent recurved, divaric.—*Cor.* purplish, 10–13 mm. long—*Upper pet.* rather broad, wings exceeding keel—*Fr.* nearly square in profile; truncate, (2.5 mm.).
- F. Bastardi* Bor. (confusa)—*Rac.* lax (15–25 fl.), longer than pedunc.—*Bracts* lin.-obl., cusp.—*Sep.* oval, scarcely serr., acute—*Cor.* pink (10–11 mm.)—*Upper pet.* laterally compressed; lower pet. with very narrow spreading marg.—*Fr.* rotundate (2.5 mm.).
- Var. *Gussonii* Pugsl.—*Sep.* broadly oval ( $2-3 \times 1-2$  mm.)—*Fr.* roundish-obt. (2 mm.)—Jersey and Cornwall.
- Var. *hibernica* Pugsl.—*Pl.* lax, diffuse, with broader lf. segm.—*Bracts* more than half as long—*Fr. ped.*—*Cor.* with wings of upper pet. and tip of inner ones blackish-red—*Outer pet.* apiculate or very acute—*Fr.* rounded obt. above (2.5 mm.).
- F. Martini* Clav. (paradoxa)—*St.* robust, diff. or climbing.—*Vac.* long (20 fls.) exceeding ped.—*Sep.* oval, pelt., sub-ent. ( $3-5 \times 1.5-2.5$  mm.)—*Cor.* light rose-pink (11–13 mm.)—*Upp. pet.* obscurely compressed; lower pet. with very narrow spreading margins—*Fr.* sub-rotund, obscurely keeled ( $2.5-2.75 \times 2-2.5$  mm.)—Guernsey, Cornwall.
- F. muralis* Sond.—*St.* very slender, diffuse or climbing—*Rac.* few (12 or less) flowered—*Ped.* frequently incurved—*Cor.* 9–10 mm. rose-pink—*Upper pet.* apic.—*Fr.* subrot-ov. (2 mm. long and less broad), sm. apic. pits.—Rare.
- Var. *cornubiensis* Pugsl.—Differs from type by its pale lilac cor., with broadly winged upper and spatulate lower pet.
- F. neglecta* (Pugsl.)—*St.* robust, suberect or ascend.—*Fr. ped.* slender, straight, suberect—*Sep.* normally entire—*Cor.* 9–10 mm.—*Upper pet.* broad, obt.—*Fr.* shortly obov., nearly truncate (2 mm.), faintly rugulose.
- F. Boraiei*, Jord.—Variable—*St.* up to 1–2 m.—*Rac.* 12 fl., nearly as long as straight pedunc.—*Fr. ped.* longer than bracts—*Sep.* oval, acute, acum. ( $4-5 \times 2.5-3$  mm.)—*Cor.* deep-rose-coloured or cr., 12 mm.—*Upper pet.* broad, subac. or apic., rarely obt., with broad wings nearly black—*Fr.* obov., obt. ( $2-2.5 \times 2.25$  mm.).
- Var. *ambigua* (Pugsl.)—*Cor.* paler and more narrowly winged (11 mm.)—*Fr.* squarer in prof., scarcely narrowed below to a base equalling or overlapping tip of ped. (2.5 mm. long and broad).
- Var. *britannica* (Pugsl.)—(*Sep.* ac.,  $3-4 \times 2-2.75$  mm.)—*Cor.* paler than in type (10 mm.)—*Fr.* subrot.-obovate, very obt. (2 mm.) (serotina, p. 12).

Var. *gracilis* Pugsl.—St. usually slender and climbing—Ped. incurved—Bracts long—Sep. (4.5 × 2.3 mm.) acum.—Cor. paler than type (10 × 4 mm.) long and upper pet. narrower—Fr. as in type (*muraliformis*, p. 12). A hybrid *F. officinalis* × *Boraei* (Pugsl.) has been described. The var. (*verna*, p. 12) is *forma rubens*. Pugsl.).

*F. micrantha* Lag. (*densiflora*)—Fl. rac., dense, 20-30 fld.—Bracts lin.-obl., tinted with pink, cusp.—Fr. ped. shorter than bracts, straight, erect-spreading—Sep. orbic. or broadly ovate, pelt. or sub-cord. (2.5-3.5 × 2-3 mm.), broader than cor. and more than  $\frac{1}{2}$  as long—Cor. pink, wings of upper pet. and tip of inner one dark red (6-7 mm.).—Fr. sub-glob., distinctly keeled, 2-2.5 mm.

*F. officinalis* L.—Cor. purplish-pink, 6-8 mm.—Sepal ov. or ov.-lanc., scarcely pelt. (2-3.5 × 1-1.5 mm.), less than a third as long as cor.—Fr. as broad as long.

Var. *b. elegans* Pugsl.—Rampant, glaucous—Ls. cut into narrowly lanc. segm.—Rac., 30-40 fl.—Fr. 2 × 2.5 mm., finely rugose.

Var. *c. Wirtgeni* Haussk.—Rac. lax, 10-20 fl.—Sep. sm., whitish.

Var. *e. minor* Haussk.—Pl. diff., glaucous—Ls. with broader segm.—Sep. sm. (2 mm.)—Cor. smaller and paler than type, 6.7 mm.—Rac. lax, 10-20 fld.

*F. Vaillantii* Lois.—Lf. segm. flat, usually glauc.—Rac. shortly peduncled (6-16 fl.), longer than the short pedunc.—Cor. pink.—Fr. obscurely keeled, rounded, obt.

Var. *b. Chavini* R. & F.—More erect and robust—Ls. bi-tripinnate sect.—Rac. rather dense, 10-16 fl.—Cor. light pink—Fr. slightly larger and more coarsely rugose than in type.

*F. parviflora* Lam.—Ls. segm., usually channeled, glauc.—Rac. sub-sess.—Cor. white or tinted with pink (5-6 mm.)—Fr. distinctly keeled (2-2.5).

Var. *b. acuminata* Clav.—Ls. intensely glauc., with very fine segm.—Cor. suffused with pink.—Fr. subacute.

Var. *c. Symei* Pugsl.—Very glauc.—Ls. with short, thicker, and more divaricate segm.—Fr. (2 mm.) subrotund, when ripe obt., with keel drawn into a short, blunt, and notched beak.—Camb., Haddington.

Several other varieties and forms have been described (see Camb. Br. Fl. vol. iii.).

P. 14, n. 3. *Barbarea vulgaris*, var. *transiens* Dr.—Ls. with lateral linear lobes much exceeding in breadth the long terminal lobe—Fl. large—Stiff clay soil.

Note in *B. vulgaris* the fl. buds are glabr.; in *B. stricta* they are pilose at tip.

P. 14, n. 4. For "*palustris*" substitute "*islandica* (Oed.) Dr.," the older trivial.

P. 14, n. 6. For "*Arabis grandiflora*" read "*grandifolia*."

P. 16, n. 2. A hybrid, *Cochlearia officinalis* × *anglica* = *C. hollandica* Henr., occurs with both parents. See B.E.C. 27, 1923.

P. 16, n. 2 bis. \**Sisymbrium orientale* L. (Columnae) Alien—Ls. stalked runcinate, pinnatif., term. lobe larger hastate, upper lin., entire—Sep. erect—Fl. small, bright yellow—Pods long, 0.5-1 cm., 1 mm. broad.

P. 18, n. 5. *S. Thaliana* Gay, var. *b. brevicaulis* Dr.—B.E.C. 28, 1923.—Habit of *Erophila*—Small, 12 mm. high—Ls. in dense rosette, glabr.—Pods short, 6 mm.—At 650 m., nr. Sedbergh, Yorks., A. Wilson.

P. 20, n. 1. *Bursa pastoris*—For new species, see B.E.C., p. 179, 1920; p. 273, 1921; p. 433, 1924, etc.



- P. 20, n. 3. Add \**Lepidium neglectum* Thell.—Differs from *raderale* in the more rounded and slightly larger (3 against  $2\frac{1}{2}$  mm.) caps. and seeds with narrow wing—Alien.  
(*L. densiflorum* Schrad., *L. virginicum* L., and other alien species occur).
- P. 20, n. 6. *L. Smithii* Hook., var. d. *leiocarpum* (Thell.)—Pods quite smooth.
- P. 24, n. 2. *Helianthemum Chamaecistus*, var. c. *parviflorum* Dr.—Pet. about half the size of type, i.e. as long as sep.  
Hybrids of  $2 \times 3$  and  $2 \times 4$  are reported.
- P. 24, n. 4. *Viola Riviniana*, var. d. *diversa* Greg.  
Intermed. between 3 and 4—Lower stip. with long teeth, upper almost ent.—Fls. as type, but small—Cal. appendages broad squarish—Spur often greenish, anther spur crescent shaped.  
Var. e. *pseudo-mirabilis* Greg.—Pl. large (1–3 dcm.), nearly glabrous—Adult ls. large reni., obt., the upper shortly but distinctly petiolate—Stip. lge. oval—lanc., clean cut, ent. shortly ciliate—Killarney, etc.
- 24, n. 5. *V. rupestris*, var. *arenaria* Beck.  
Whole plant except petals clothed with a felt of short hairs.  
Var. b. *glabrescens* Beck.  
Whole plt. except pet. slightly pubescent.  
Var. c. *glaberrima* Beck.  
Whole plt. glabr., but with the distinctive broad-based stip.—Devon, Herts.
- P. 24, n. 6. *V. canina*, var. e. *pusilla* Bab.  
Ls. roundish-cord., rather acute, sm.—Fl. more vi.-blue with yellowish eye and yell. spur.—Size of fl. large in comparison with sm. ls.—Root slnd., spindle shaped.  
Var. f. *sabulosa* Reichb.  
Caespit.—Like var. e., but fl. larger and more numerous.  
Var. g. *lanceolata* Mart. Don.  
Pl. ascending, diffuse—Ls. lanc. subcord., longer than in type.  
Var. h. *lucorum* Reichb.  
Pl. tall, branched, leafy, glab. dark blue-gr.—Fl. deep blue—Stip. sub-ent.—Wood Walton.  
(Hybrids of 6 with 1, 2, 7 have been described.)
- P. 24, n. 7. *V. lactea*, var. b. *pumiliformis* Rouy and Fouc.  
Pl. small—Ls. obl.-lanc., attenuate at base, decurrent on the short petiole—Perhaps  $7 \times 6$ .
- P. 26, n. 8. *V. odorata*, var. f. *praecox* Greg.  
Pl. sm.—Like type but with smaller and darker fl., more slender stolons and smaller spring ls. more pointed at apex, and more oblique at base—Flowering early in year.  
Var. g. *floribunda* (Jord.).  
Pl. much longer, faintly scented, bract below middle of pedunc.—Cobham, Wrexall.  
Var. h. *immaculata* Greg.—Differs from *dumetorum* in its early and prolonged flowering, its tall erect growth, long vigorous stolons, and in the pure whiteness of its fl.
- P. 26, n. 9. *V. hirta*, var. i. *variegata* Greg.  
Fl. varieg. with W. and Vi.—Caps obt. angled, clothed with long hairs—Oxon, Gloster.
- P. 26, n. 11. *V. epipsila* Ledeb.  
Pedunc. and petiole and veins of the underleaf surface hairy—Fl. larger.
- P. 27, n. 13. The type *V. Kitaibeliana*, R. & S., which is more robust and has less divaricate peduncles grows with *nana* in Jersey. See Barton in B. E. C. 30, 1923.



- P. 26, n. 1. For "*serpyllacea Weihe*" read "*serpyllifolia Hosc*"—the older name.
- P. 28, n. 1. Var. d. *Ballii* Ostenf.—Fl. large bright blue; pl. often prostrate—Northern Coasts.
- P. 28, n. 3. For "*oxyptera*" read "*dubia Bellynck*," and "var. *dunense*" for "var. *collina*."
- P. 30, n. 3. *Lychnis dioica*, var. *zetlandica* (Compt.) Dr.—Stem stout, densely hairy; lamina soft and downy, broadly ellipt.; Fl. large, dark purple-red, in dense term. clusters—Zetland.
- P. 30, n. 1. *Silene maritima*, var. b. *parvifolia* Dr.—Ls. very sm. (6-12 mm.); pl. prostrate—Loose shingle, Cornwall.
- P. 32, n. 3. *C. Cerastium alpinum*, var. *pubescens* Syme =  $\times$  *C. Symei* Druce. This is for the greater part *C. alpinum*  $\times$  *vulgatum*—Pl. less caespitose, more erect—Ls. narrower, less hairy, hairs shorter, and nearly eglandular. *C. alpinum*  $\times$  *nigrescens* = *C. Blyttii* Baen. Pl. less woolly—Ls. more acute, greener, shorter, pubesc.—Upper bracts with distinct membran. border.
- P. 32, n. 4. *C. nigrescens*  $\times$  *vulgatum*  $\times$  *C. Richardsoni* Druce. Pl. prostrate, ascending—Ls. narrow, acute, sparingly glandular, pubesc. sparse—Fl. lge.—Snowdon.
- P. 32, n. 5. *C. vulgatum*, var. f. *serpentini* (Syme) Dr.—Fl. large as those of *Stellaria Holostea*. Var. *nemorale* Uechtr.—Pl. robust, diffuse (50-75 cm.), glandular hairy—Ls. large, broadly oval—Fens, etc.
- P. 32, n. 6. *C. viscosum* L., var. *elongatum* Dr.—Inflorescence lax; ped. longer; pl. slender.
- P. 32, n. 9. *C. tetrandrum* Curt. Var. b. *eglandulosum* Salm.—Without glandular hairs. Var. c. *zetlandicum* Murb.—Pl. rigid—Internodes very short—Inflorescence condensed—N. Scotl. Many other forms occur.
- P. 32, n. 9 bis. *C. subtetrandrum* Murb.—Fl. branches from above middle of stem—Bracts herbaceous, ov. or ov. lanc., usually narrower than ls.—Sep. with long membr. tip—Caps. longer, with narrower mouth—Sutherland, Zetland. Needs further investigation.
- P. 32, n. 7. For "*S. palustris Retz*" read "*S. Dilleniana Moench*"—Foliage green—Local.—add var. b. *palustris* (Retz)—Like type, but with glaucous ls.; the commoner plant.
- P. 34, n. 1. *Arenaria trinervia* L., var. b. *hyemalis* Dr. in B. E. C. 434, 1924—Flowers through winter, stiffer, more branched—Flo. smaller—Sta. 7 (10 in. type)—Devon, W. D'Urban.
- P. 34, n. 1. *Sagina nodosa*, var. c. *moniliformis* Lange—Leaf-axils with fascicles of sm. ls., which fall off and root.
- P. 34, n. 4 bis. *Sagina scotica* Dr.—Creeping and rooting—Ls. mucronate—Ped. long, glabr.—Sep. 5, elliptic, obt.—Pet. 5, as long or nearly as long as sep.—Sc. mts. (*S. Linnaei* Moss not of Presl.).
- P. 34, n. 6. Var. *filicaulis* (Jord.)—This is the more glandular plant, with very narrow longly ciliate ls., pedic. bent after flowering. Sep. blunter, not invariably appressed to ripe caps; pedicel more filiform.
- P. 36, n. 8. *S. maritima* Don, var. *ciliata* Nord.—Pl. greyish glaucous, slightly glandular—Stem decumbent—Ls. apiculate, with minute gland. hairs—Forfar.

- P. 36, n. 9. *Sagina procumbens*, var. *c. pentamera* Dr.—Parts of flower in fives—*Pet. sm. or absent.*  
 Var. *d. Daviesii* Dr.—*Pet. conspicuous, very numerous (10-50)—Rare ; rather a lusus than a true variety.*
- P. 36, n. 3. *Spergularia salina*, var. *c. urbica* Dr.—*Fl. smaller, condensed into dense, short cymes, the pedi. shorter than caps.—Littlestone, Kent. B. E. C. 155, 1912.*
- P. 36, n. 5. *S. rubra*, var. *stipularis* Boiss—*Stipules very long, silvery white.*
- P. 38, n. 2. For "*sessilis*" read "*sessiliflora*."
- P. 40, n. 10. *Hypericum quadrangulum* L., var. *Desetangsii* (Lamotte).—*Stem 3-9 dcm., firm, upright, branched, with four not strongly winged angles—Ls. oval obl. punctate, with pellucid dots and with nearly simple pellucid veins, rounded at apex, narrowed at base—Sep. lanc. ; acuminate flowers as large as those of perforatum—Sussex, Oxon., etc.*  
*Differs from perforatum by its 4-angled stem and broader sepals ; from quadrangulum by its translucently dotted leaves and narrower sepals ; from acutum by the larger flowers, by the transparent secondary nearly simple veins, and by the absence of black marks on sep. or pet.*
- P. 42, n. 2. \**Malva sylvestris*, var. *c. angustiloba* Celak.  
*St. and ls. paler gr.—Pubesc. appressed—Ls. sm. with narrow lobes and deep sinuses.*
- P. 42, n. 4. *M. pusilla*, With.—*Bracts of epicalyx exceeding cal.*
- P. 42, n. 4 bis. *M. parviflora* L.—*Bracts of epicalyx narrow, falling short of cal.—Fl. small, sessile—Main stem erect—Waste ground.*
- P. 42, n. 4. *Linum catharticum*, var. *dunense* Dr.—*Pl. small, densely branching—Ls. sm. (20 by 10 mm.)—Internodes short—Sand-dunes.*
- P. 44, n. 12. *Geranium pusillum*, var. *condensatum* Dr.—*Compact, densely branching—Ls. sm. (20 by 10 mm.)—Short internode—Carpophore 7-10 mm.*
- P. 44, n. 14. *G. Robertianum*, var. *b. purpureum* (including *modestum*)—*Pet. small, only a little longer than sep.—Sta. yell.—Fr. thickly wrinkled—Ls. more narrowly cut—South of Eng. and Chan. Isles.*  
 Var. *c. celticum* (Ostenf.) Dr. (replaces *Villarsianum*)—*Pl. sm., diffuse—Fl. sm.—Ls. gr., less cut and nearly odourless—Carp. glabr.—Co. Clare, Carmarthen.*  
 Var. *d. hispidum* Dr., as type, but very viscid, much branched, brittle—*St. and ls. thickly clothed with patent glandular white hairs—Carp. glabr.—Berry Head, Derby.*  
 Var. *e. maritimum* Bab.—*Prostrate, red, subglabr.—Carpoph. glabr.—Fl. sm.—Shingle of S. Coast.*
- P. 46, n. 3. The forms of *Erodium cicutarium*, var. *c.*, are as follows (see J. of Bot. 121, 1920).  
*Carpel-pit not surrounded by a furrow—Fil. of fertile sta. sub-dent., or abruptly enlarged at base—Pedunc. 2-3 flowered, slightly shorter than ls.*  
 Var. *c. glutinosum* (Dum.)—*Very glutinous—Carpel-beak 15-20 mm. long—British Sea-coast.*  
 Var. *d. dentatum* (Dum.)—*Carpel-beak 25-30 mm. long—To be looked for.*  
 Var. *e. neglectum* (B. & S.)—*Ped. 3-5 flowered, longer than ls.—S. and W. Coasts.*  
*Carpel-pit surrounded by a furrow—Fertile fil. of sta. gradually enlarged at base.*  
 Var. *f. Lebelii* (Jord.)—*Glandular—Ped. many fld.—Leaflets broad—Devon and West Coasts.*  
 Var. *g. Ballii* (Jord.) *Eglandular—Ped. few fld.—Leaflets narrow—Ireland.*



- P. 48, n. 2. *Rhamnus catharticus*, var. *Schroeteri* Dr.—*Ls. paler gr., glandular, mealy pubescent—Silverdale, etc.*  
 Var. *prostrata* Dr.—*Pl. very small, prostrate—Galway.*
- P. 48, n. 2. *Acer campestre*, var. *incisifolium* Dr. in *B.E.C.*, 605, 1922—*Ls. deeply cut into lobes to within 6-12 mm. of mid-rib.*
- P. 48, n. 1. *Genista anglica*, var. *subinermis* R. & F.—*Stems low, more or less prostrate; spines absent or few and weak.*
- P. 48, n. 2. *A hybrid Ulex Gallii* × *europaea*—*Occurs in I. of Wight and Cornw.*
- P. 48, n. 3. *U. minor* Roth., var. *longispinosus* (R. & F.) Dr. differs from type in its stronger and more erect habit, and longer spines, 12-18 mm., as against 8-12 mm. Sometimes mistaken for *Gallii*.
- P. 52, n. 7. *Trifolium arvense*, var. *longisetum* Boiss.—*Calyx-teeth long, conspicuous—Sussex.*
- P. 54, n. 16. *T. hybridum*, var. *elegans* (Savi)—*St. solid, decumbent; stip. narrower; inflorescence shorter than type.*
- P. 56, n. 6 bis. \*Add *Lotus Siliquosus* L. (*Tetragonolobus*) differs from *Lotus* by its quadrangular pod, winged at the angles, glabr.—*Fl. yellow—Pl. perennial—Natd. in Berks, Hants, Glost.*
- P. 56, n. 1. *Oxytropis sericea* Simonk.—*Retains the older trivial.*
- P. 56, n. 1. *Vicia sylvatica* L., var. *b. condensata* Dr.  
*Pl. sm.—Lfts. sm. sub-coriac. broader and shorter than type, sub-glauc.—Fl. sub-capitate, often suffused with greyish-br.—Few fld.—Shingle, Wigton, Antrim.*
- P. 58, n. 2. *Lathyrus sylvestris*, var. *b. latifolius* Peterm.  
*Lfts. broader than the type, resembling L. latifolius L.*
- P. 58, n. 3. *V. Cracca*, var. *linearis* Peterm. (*stenophylla* Fr.)—*Ls. narrow linear.*
- P. 64, n. 3. *Potentilla Anserina*, var. *c. sericea* Hayne.  
*Ls. silvery on both surfaces.*
- P. 64, n. 7. *P. reptans*, var. *c. mollis* Borbas.  
*Ls. softly hairy—Cornwall, etc.*
- P. 64, n. 8. *P. erecta*, var. *sciaphila* Zimm.—*Sm. compact, prost. pl.—Ls. faintly toothed—Fl. sm. on long, slender pedic.—Divis. of epicalyx  $\frac{1}{2}$  length of cal.*
- P. 64, n. 1. *Alchemilla vulgaris*, var. *b. glabra* (*A. alpestris*).  
 var. *c. minor* Huds. (*A. filicaulis*)—*Pl. smaller—Stem and pet. clothed with patent hairs.*  
 var. *d. glomerulans* (Buser)—*Like b, but with stems and petioles sub-appressed pilose throughout—Fl. in dense clusters.*  
 var. *e. acutidens* (Bus.)—*Lf.-lamina glabr., with silky hairs on basal lobes below, and on teeth—Teeth very equal, narrow, and close.*  
 Other micro-species are recorded.
- P. 64, n. 2. *A. argentea* Don is a native species in Forfar, Perth, Arran, and Dumfries.
- P. 70, n. 13 bis. *Rosa Rothschildii* Dr.  
 Thorns falcate, the upper part of stems and flowering branches with aciculi—*Lft. biserr., marg. gland., hairy on the nerves and mid-rib only, surface glab. with subfoliar glands—Odour of the mollissima group—Peti. and pedunc. gland. and acic.—Corolla pale rose—Style sub-glab.—Fr. ov. glob. glab.—Northants, Hunts, Surrey—R. caryophyllacea Auct. not of Christ.*  
 The Student of Roses should consult Lt.-Col. A. H. Wolley-Dod's "British Roses." 55.



- P. 72, n. 2. *Pyrus communis*, var. *Deseglisei* (R. & F.) Dr.—Fr. sm., the size of a cherry—Ls. sub-orbic., mostly cordate—Gloster.
- P. 72, n. 3. *Pyrus Aucuparia*, var. b: *flava* Dr.—Berries orange-yellow—Ireland.
- P. 73, n. 5. *Pyrus Aria*, var. c. *incisa* Reichb.—As type, but ls. more deeply cut.  
Var. d. *tomentosa* (Rouy and Cam.) Dr.—Ls. tomentose on upper surface, nerves less numerous, corymbs denser, shorter, with short pedi.
- P. 74, n. 1. *Crataegus monogyna* Jacq., var. e. *quercifolia* (Loud.).  
Ls. lge., pale gr. rhomb., sinuate oaklike, cut into 5-7 unequal segm.—Flowering branches much contorted.  
Var. f. *cuneata* Dr.—Ls. narrow ovate, oblong, wedge-shaped below, cut into 3-4 segm.  
Var. g. *aurea* Hort.  
Haws golden yellow.  
Var. h. *parvifolia* Dr.  
Ls. sm. (10-20 cm.) long, (10-18) broad, deeply cut—Fr. as in type.  
Var. i. *glabrata* Sond.  
Calyx tube glabrous (*leiocalyx* Druce).  
Var. j. *Masonii*, Dr., B. E. C. 437, 1924—Flowering branches pendulous.
- P. 74, n. 2. *C. oxyacanthoides* Thuill, var. c. *cuneatiformis* Dr., B. E. C. 35, 1923—Ls. long, narrow, cuneate, long-lobed at or near apex.
- P. 74, n. 2. \**Cotoneaster Simonsii* Bak.—Alien shrub (5-30 dcm.)—Erect—Ls. ellip., ent.,  $2\frac{1}{2}$  cm. acum. glabr. above, thinly silky below—Flo. sol. in pairs—Fr. glob. orange-red. Evergreen in mild winters. Bird-sown in many places and easily naturalised. An Indian species.
- P. 74, n. 3. \**C. microphylla* Wall.—Alien, prostrate or ascending evergreen shrub, 10-20 dcm.—Ls. small, ov. or obov., acute, retuse, or obt., green glossy above, pubescent or toment. beneath—Fl. usually sol.—Nepal. Naturalised in many places.
- P. 74, n. 3. *Saxifraga Drucei* Marshall—Pl. pale gr., very villous, usually densely tufted—Pet. pure white, 3-5 veined obov. quite entire, rounded at tip—W. Irish Mts., 300 to 3000 ft.
- P. 76, n. 10. *Saxifraga stellaris*, var. b. *fontana* Druce.  
Pl. sm.—Ls. not rosulate but sm., succulent, often reddish—In high alpine rills.
- P. 76, n. 1. *Parnassia palustris*, var. b. *condensata* Travis and Wheldon.  
Pl. tufted, with many flowers—Cor. and caps larger than in type—Bract. near base of st.—Damp dunes.
- P. 78, n. 1. *Tillaea aquatica* L.  
Cal. 4 part.—Petals very sm., white, carpels 4—Caps. many seeded—Pl. sm., 2-5 cm.—Ls. lin., 4 mm. long—On mud and in water—1 orks. See B. E. C., 281, 1921.
- P. 78, n. 1. The British plant is not *S. Telephium* L. but *purpureum* L.
- P. 78, n. 6. *Sedum acre*. Prof. Graebner of Berlin considers the British species is distinct from the Continental *acre*, and has named and described it as *S. Drucei*. The true *S. acre* is a stouter, more erect and caespitose plant, with fatter leaves, and is said by Dr. Ostenfeld to grow in Stirlingshire.
- P. 80, n. 2. A hybrid with *D. rotundifolia* (*D. Belexiana* Camus) has been found.
- P. 82, n. 1. *Peplis Portula*, var. b. *dentata* Druce—Calyx teeth longer than caps.
- P. 82. *Epilobium hirsutum*  $\times$  *palustre* =  $\times$  *E. Waterfallii* Marshall—Discovd. in Cheshire by Mr. C. Waterfall, and at Dungeness, R. H. Compton.
- P. 82, n. 2. *Epilobium palustre*, var. b. *pubescens* Coss. and Germ.  
St. simple, covered with short pubesc. of patent hairs.

- P. 84, Gen. IV. *bis*.—\*Fuchsia Riccartoni Hort.—Shrub 2-3 mm. Ls. ov. acute, denticulate, fl. globose; cal. scarlet-crimson; pet. purple. Nat. in W. Ireland, etc.
- P. 84, n. 2. *Circaea alpina*, var. *b. intermedia* (Ehrh.)=*C. canadensis* Hill—*Pl. and fl. larger than type, sep. less membran., equalling pet.*
- P. 84, Ord. XXXIII. *bis*. \**Carpobrotus edulis*, N. E. Br. \**Mesembryanthemum edule* L., Hottentot's Fig.—Per. Ls. subconnate, thick, succulent, triang. in outline, acinaciform; upper pair not cup-shaped; ped. very stout. Flowers lge., showy pale yellow. Carpels 10-16 in. dehiscent, var. *rubescens* Dr.—Fl. red. Nat. in Ch. Isles, Cornw., etc. Native of the Cape.
- P. 86, n. 3. *Apium inundatum* × *nodiflorum* = × *Moorei* Dr.  
*Prof. Glück thinks this is a distinct species.*
- P. 86. Gen. XI. *bis*. *Ammi* L. Cal. ent.—Pet. obov. with 2 unequal lobes, apex incurved—Fr. ovoid-obt., glabr.—Gen. invol. of conspicuous broadish bracts (in *Falcaria* the bracts are setaceous).
- P. 86, n. 1. \**Ammi majus* L.—*Pl. 10-20 cm.—Pet. white—Gen. invol. of long trifid bracts—Lr. ls. segm. ovate, lanc., toothed; upper ls. segm. bipinnat. with lin. segm.—Arable ground—Adventive but naturalised in Kent, etc.*
- P. 90, n. 1. *Cerfolium sylvestre* Bess.=(*Anthriscus sylvestris*), var. *latisectum* Druce. Leaf-divisions broad. Chiefly in S. England. Var. *angustisectum* Druce. Leaf-divisions narrower and more rigid—Scotland, North England.
- P. 90, n. 2. *Chærophyllum aureum* L.  
*Rootstock branching—Ls. tripinn.—Lf. segm. acum., glab., yell.-gr.—Fl. white—Fr. yellowish—Perennial—Pl. 15-40 dcm.—Callander.*
- P. 90, n. 3. *Enanthe crocata*, var. *tenuifoliolata* Druce—*Ls. segm., much narrower than type; lr. ls. segm. 8-15 cm. across, of the upper 2-3 cm. across—Sussex, etc.*
- P. 90, n. 6. *Œ. Lachenalii* Gmel., var. *approximata* Koch. *The trifid segm. of pinnatisect radical ls. cuneiform-obt. (In type rad. ls. bipinnatisect, segm. obov., incis-crenulate.)*
- P. 90, n. 7. *Œ. fistulosa*, var. *Tabernaemontani* Gmel.  
*Radical ls. lobes multifidly cut into linear acute-tipped segments.*
- P. 92, n. 1. *Angelica sylvestris*, var. *decurrens* Lall.—*Upper leaf-segm. decurrent (in type rounded or cord.).*
- P. 92, n. 1 *bis*. \*It is more correctly *H. Mantegazzianum* S. & L. *Heracleum villosum* Fisch.—Alien pl., 2-3 metres—Umb. very large—Ls. pinnat., deeply toothed—A Caucasian sp., naturalised near Dundee, etc.
- P. 95, n. 1. *Hedera Helix* L., var. *b. borealis* Druce—*Ls. of fl. br. very narrow, usually pale gr.; of trailing br. acutely angled—North Brit., rare in the South.*  
*Var. c. sarniensis* Druce—*Ls. of fl. branches very broad, dk. green—Ls. of the trailing branches broad, obtusely angled—Guernsey, etc.*
- P. 96, n. 1. *Sambucus nigra*, var. *viridis* Ait.—*Fr. gr. or yell.-gr.*
- P. 96, Gen. III. *bis*. \**Symphoricarpos racemosus* Michx.—*A bushy shrub 3-6 ft. with broadly oval entire, short-petioled leaves; Fl. in a loose, somewhat interrupted leafy spike at end of branches; cor. rose coloured, bearded within, bell-shaped, small, 4-5 lobed; berries large, soft, snow-white. Alien N. America. Planted in hedges and coverts. Snowball-tree.*
- P. 98, n. 4. *Galium hercynicum* Weig., var. *b. transiens* (Rouy.)—*Pl. larger than type—Stem 10-25 cm., as against 5-15 cm.—Ls. narrower—Pan. obl., elongate with ascending not converging pan. See B. E. C. 561, 1919.*



- P. 98, n. 5. For *asperum* read *pumilum* Murr., the older name.
- P. 98, n. 7. *G. palustre*, var. *lanceolatum* Uechtr., as var. *elongatum*, but with angles of stem rough.
- P. 98, n. 7. *bis*. *G. debile* Desv., near *palustre*. Pl. 4-10 cm.—Ls. small linear, in whorls 4-6, less rough than *Witheringii*—Inflor. narrow—Cor. sometimes tinged with red at base—Habit recalls *Asperula cynanchica*—Jersey, etc.
- P. 102, n. 3. *Scabiosa Succisa*, var. *b. hispidula* Peterm.—Ls. strongly hairy  
 Var. *c. glabrata* Schultz—Ls. nearly glabrous.  
 Var. *ovalis* Rouy.—St. short, simple—Cauline ls. sub-lin.
- P. 102, n. 1. *Solidago Virgaurea*, var. *angustifolia* Gaud.—Fl. sm., mostly axillary—Ls. lanc., ent., or obscurely serrate.  
 Var. *lanceolata* Dr. (in B. E. C. 288, 1921)—Ls. lanc.—Fl. small, stalked, mostly at top of stem.  
 Var. *Plukenetiana* Dr. (l.c.)—Heads large—Ls. sm., feebly toothed, obt., rarely acute—Pl. sm., 2½-10 cm.—Mountains.  
 Var. *corymbosa* Dr. (l.c.)—Fl. sm. in corymb.-cyme—Ls. more or less crenate.  
 Var. *cambrica* (Huds.)—St. simp.—Fl. large, mostly capitate—Ls. narrow, elliptic, glabrescent, margin ciliate—*Snowdonia*; probably a distinct species.
- P. 102, n. 1. *Aster Tripolium*, var. *c. glaber* Bolz.—Invol. scales glabr.
- P. 102, n. 1. *Filago germanica*, var. *axillaris* Dr.—Heads sessile in axils of stem ls.
- P. 106, n. 1. *Achillea Millefolium*, var. *conspicua* Dr. (B. E. C., v. 34, 1917)—Lig. large, white or pink; the blade 3-4 mm. by 3 mm.
- P. 106, n. 2. *Chrysanthemum Leucanthemum* L., var. *b. laciniatum* Vis.—Basal ls. pinnatifid or sub-pinnatifid.
- P. 106, n. 3. *C. Parthenium* Bernh., var. *b. flosculosum* DC.—Ligules absent.  
 Var. *c. breviradiatum* (Schultz)—Ligules very small.
- P. 110, n. 3. *Senecio aquaticus*, var. *c. ornatus* Dr. in B. E. C. 25, 1920.  
 Differs from type in the more condensed habit, and larger flowers arranged in a much closer head; the outline of corymb being that of an inverted pyramid—Zetland.
- P. 110, n. 3. Hybrid with *S. Jacobaea* (B. E. C. 17, 1914).
- P. 110, n. 3 *bis*. *S. erraticus* Bert.  
 Differs from *aquaticus* by its smaller fl., more divaricate branches; divaricately spreading corymb-branches, and in the lateral ls.-lobes spreading at a right angle (not ascending)?—Guernsey, Hants.—Needs further study.
- P. 110, n. 5. *S. erucifolius* L., var. *subintegrifolius* Dr.—Ls. ellipt. (6 cm. by 12-15 mm. broad), margin with short teeth (3-4 mm.).  
 Var. *c. viridulus* Rouy—More strongly branched, ls. subglabrescent
- P. 110, n. 6. *S. squalidus*, var. *subinteger* Dr.—Ls. ent., coarsely toothed.
- P. 113, n. 5. *Cirsium pratense* Dr., var. *b. polycephalum* Dr.—St. with 2 or more fl. heads—Ls. incised, or more or less pinnatifid, the lobes sometimes 2 or 3 cleft—More frequent in Ireland.
- P. 113, n. 8. *C. palustre*, var. *b. ferox* Dr.—Ls. lighter gr., fl. paler red—Prickles very long, numerous, pale yellow—Plant shorter—Dry and hilly places.
- P. 114, n. 1. *Centaurea Jacea* L. See C. E. Britton in B. E. C. 163, 1920.  
 Here he divides it into true *Jacea*, sub-sp. *jungens* Gugl., and *angustifolia* Gugl., and many varieties.



P. 114, n. 2. *C. nigra* L.

This Mr. Britton (B. E. C. 410, 1921) divides into several species, the common English form being *nemorosa* Jord., with pale phyllary appendages; and the more common northern plant, *C. obscura* Jord., which has very dark phyllary appendages. *C. surrejana* and *C. Drucei* Britt. are more local forms; the latter has larger globose heads than *nemoralis*, and the phyllaries are browner than in *obscura*. These vary with radiate heads or with nearly entire leaves.

P. 114, n. 8. *Centaurea aspera* Willd., var. b. *subinervis* DC.—Has the leaf-spines obsolete or reduced to almost adpressed spinules—Guernsey—See B.E.C. 42, 1923.

Var. c. *angustata* Rouy—Smaller flowers and elongated pericline, and broadly linear ls.—Guernsey.

P. 116, n. 5. *Crepis capillaris* Wallr., var. d. *anglica* Dr. & Th.—Differs from type in the larger fls.—pericline and pedunc. clothed with black glandular hairs.

P. 116, n. 7. *C. taraxacifolia* Th., var. b. *subindivisa* Dr. (B.E.C. 612, 1922)—Ls. nearly ent., with about 12 short teeth on each side of the ent. almost spathulate lamina.

P. 118, n. 1. *T. paludosum*, var. b. *balticum* (Dahlst.).—Group *Palustria*.

Pl. sm.—Ls. lin., simp. or sub-simpl.—Phyllaries broadly ovate, adpressed—In very marshy places, Oxon.

P. 118, n. 1 bis. *T. spectabile* Dahlst.—Group *Spectabilia*.

Ls. large, coarsely cut in 4-7 lobes, grass-green, shining, often blotched with dark crimson—Scot., Wa., and I., N. Engl. and hilly places.

P. 119, n. 1 ter. *T. lacistophyllum* Dahlst.

Ls. much cut, jr. red—Group *Erythrospermæ*.

For numerous other species, see B.E.C. 20, 194, 292, 1921; 613, 773, 1922; 43, 1923; 441, 1924.

P. 120, n. 3. *Sonchus oleraceus* × *asper* = *S. Piquetii* Dr. (B.E.C. 43, 1923)—A rare hybrid—Jersey, Wilts.

P. 120, n. 3. *S. asper*, var. *integrifolius* Lej.—Ls. ent., finely toothed, glossy.

P. 120, n. 4. *S. oleraceus*, var. b. *triangularis* Dum.—Term. ls. lobes large, triangular.

Var. c. *ciliatus* (Lam.) = var. *lacerus* (Willd.)—Ls. deeply divided into nearly equal parallel lobes.

P. 120, Gen. XLVI. bis. *Scorzonera humilis* L.—Differs from *Tragopogon* in the achenes having no beak, and in having an imbricated, not simple pericline. Rootstock thick, blackish, forming a stout tap-root, the stem-base covered with membranous scales; stem about 3 dcm., simple, with a few white floccose hairs; radical leaves petiolate, lanc., acun., resembling those of *Plantago lanceolata*; pericline oblong, somewhat lanate, exterior phyll. oval-obtuse, inner lanc. obt.; corolla as long as pericline, yellow. Dorset, found by Noel and Cecil Sandwith.

P. 120, n. 1. *Jasione montana* L., var. *latifolia* Pugsl.—Pl. robust, slightly branched—Stem leaves obl. or obov. obl. (10-25 × 4-9 mm.)—Inflor. large, showy—Western Coasts.

P. 122, n. 3. *Campanula Trachelium*, var. b. *urticifolia* Lej. and Court.  
Calyx clothed with hispid hairs.

P. 122, n. 1. *Oxycoccus Oxycoccus*, var. b. *microcarpus* (Turc.).

Ls. smaller and more triang.—Pedi. glabr.—Fr. smaller.

Var. c. *pyriformis* Dr.—Fr. pear-shaped, not glob. as in type.

- P. 122. *Vaccinium uliginosum* L., var. *pubescens* Lange—Under sides of ls. pubescent—Rare, Ross-shire, Argyll.
- P. 124, n. 1. *Arctostaphylos Uva-ursi*, var. b. *angustifolia* Dr.—*Ls. narrowly lanc.* (15 mm.  $\times$  3.5 mm.),
- P. 124, n. 1. *Calluna vulgaris*, var. *Erica* Asch.—*Pl. prostr., rooting—Fl. often turned downwards.*  
 Var. c. *speciosa* Dr.—*Differs from type in larger fl.—Cel. segms. longer and more deeply cut.*
- P. 124, Gen. III. bis. \**Gaultheria Shallon* Pursh., allied to *Andromeda*, from which the genus differs in the calyx becoming berry-like in fruit, whereas in *Andromeda* the calyx remains dry and unchanged. Plant procumbent, shrubby, leaves oval, serrate, glabrous on both surfaces; corolla white, tinged with rose, downy, urceolate; rac. secund., bracteate, downy; fruit fleshy, globose, acute, purple. Edible. Planted in coverts, chiefly in Scotland, now spreading and naturalised. North American.
- P. 124, n. 1. *E. cinerea*, var. b. *splendens* Dr., in B.E.C. 328, 1913—*Infl. in long dense large fl. racemes.*  
 Var. c. *schizopetala* Boulg.—*Corolla deeply cut.*
- P. 124, n. 2. *Erica Tetralix*  $\times$  *vagans* = *E. Williamsii* Druce—*Cornwall.*  
*E. Mackayi*  $\times$  *Tetralix* = *E. Praegeri* Ostenf.—*Galway.*
- P. 124, n. 2. *E. Tetralix*, var. b. *fissa* Dr. (B.E.C. 329, 1913)—*Cor. deeply cut.*
- P. 124, n. 4. *E. vagans*, var. b. *Kewernensis* Turrill—*Cor. more broadly campanulate and deeper rose-colour—Lizard—P. D. Williams.*
- P. 124, n. 6. \**E. lusitanica* Rud.  
 Shrub 1-3 metres high; branches greyish-white; ls. 3-4 vertic., about 5-6 mm. long, narrow lin. with a furrow on underside; cal. ovate pointed, lobes much shorter than cor., which is 4 mm. long, pale rose, with obt. lobes about 1 mm. long. Nat. in Dorset.
- P. 124, n. 7. \**E. terminalis* Salisb. (*E. stricta* Donn.).  
 Shrub about a metre high; ls. in fours; fl. few in an umbellate head; caps. silky-pubescent. Antrim, Derry; naturalised. See B.E.C. 445, 1924.  
 Gen. 9 bis. \**Rhododendron* L.  
 Shrubs and trees with leathery ls.; cal. 5 segm.; cor. showy, 5 spreading somewhat unequal lobes; sta. 10, anth. without horns; fr. dry in obl. caps., opening in 5 valves.
- P. 124, n. 1. \**R. ponticum* L.  
 Shrub 2-5 metres; ls. obl. lanc.; narrowed at both ends; glab. above, pale or ferrug. below; fl. dull pale purp., showy; campan. rotate; lobes lanc. acute or obtuse. Seeding freely in Brit.
- P. 126, n. 5. *Limonium binervosum*, var. d. *transwallianum* (Pugs.)—I. B. 129, 1924—*Ls. lin. obl., not much narrowed at base—Cor. stellate 6 in. diam.—Pemb.*
- P. 126. *Statice maritima* Mill., sup.-sp. *S. planifolia* Druce.—Differs from lowland coast species, not only by the broader leaves, but by the wide abruptly truncate inner bracts and the openly campanulate calyx, not constricted at the mouth as in *S. maritima*. Welsh, N. English, and Highland Mts.
- P. 128, n. 4. *Primula farinosa*, var. b. *littoralis* H.—Harr.—*Pl. smaller—Ls. more ent., bright gr.—Cor. segm. rounded.*
- P. 128, n. 2. *Lysimachia vulgaris*, var. *maculata* Dr. in B. E. C. 290, 1918—*Base of cor. lobes with brownish-crimson spot.*
- P. 130, n. 1. *Centaureum Centaureum* (L.) Dr. (*umbellatum*), var. b. *ellipticum* Dr.—*Ls. broadly ellipt.*



- P. 132, n. 4. *C. pulchellum*, var. *paludosum* (Gaud.) Dr.—*St. simpl., filiform, one or few flowered—Cal. and cor. four partite.*
- P. 132, n. 5 bis. *C. scilloides*, var. *portense* Dr.—See B. E. C. 290, 1918—*Glabr. caespit.—St. prost. or diffuse—Ls. suborbic. or ovate, narrowed into short stalk—Fl. stems erect—Fl. stalked in 4-5 fl. cymes—Cor. large, 15-20 mm. rose—Newport, Pemb.*
- P. 132, n. 4. *Gentiana Amarella (axillaris) read Annual. var. c. uliginosa* (Willd.) Pl. smaller than type (3-20 cm.)—Basal ls. ov. or lanc., broadest below middle, attenuate to a narr. petiole—Lr. st. ls. ov.-lanc., more or less ac., 35 mm. long by 14 mm. broad, subpatent—Upper st. ls. dilated from base ov.-lanc. or subtriang.-lanc., acute, spreading horizontally, margins scaberulous—Cal. tube obconic, half as long as reflexed segm. with acute sinuses—Cor. 9-20 mm., long, dull violet or pale—Tube a little longer than cal.—Cotyl. present when flowering.
- P. 132, n. 4 bis. *G. septentrionalis* Dr. in B. E. C. 505, 1922. Differs from type in its smaller size, in the cor. lobes being white within and tinged with crimson on the outer side—Sandy coasts of N. Scotl. (Includes var. *calycina* Dr.)
- P. 132, n. 5. *G. campestris* L. Biennial? var. *b. suecica* (Murb.)—*Long internodes—Ls. narrower, obl., apex round or obt.*  
Var. *c. baltica* (Murb.)—*Annual.*
- P. 136, n. 1. *Myosotis palustris*, var. *d. commutata* R. & S.—*Differs in oblique rhizome—Pl. more slender, rougher, estoloniferous—Fl. pedic. shorter, fl. smaller. A more glabr. form is nemorosa Bess.*
- P. 136, n. 2 bis. *M. sicula* Guss. Like 2 but smaller, ? annual, with divaric. branches; nutlets about  $\frac{1}{2}$  size—Jersey. See B. E. C. 47, 1923.
- P. 136, n. 6. *M. collina*, var. *Lebelii* Corb. (B. E. C. 38, 1917)—*Fl. small, bluish or yellowish white, inflor. often bracteate—Dorset, etc.*
- P. 138, n. 1. *Convolvulus arvensis*, var. *b. linearifolius* Ch.—*Ls. very narrow, sublin., not divided.*  
Var. *c. Stonestreetii* Dr.—*Cor. deeply cut in 5-6 lobes.*
- P. 141, n. 1. *Linaria vulgaris*, var. *prostrata* Domin.—*Sm. prostr. pl.—Br. horizontally patent.—Rac. sm. few fld.*
- P. 142, n. 2. \**L. pallida* Ten.—See B. E. C. 447, 1924.  
Differs from *Cymbalaria* in being pubescent and having larger and more showy flowers and longer spur—S. Ital., nat. on shingle at Bardsey, Lancashire.
- P. 142, n. 2. *Scrophularia aquatica*, var. *c. flavo-viridis* (Thurst.)—*Fl. yell.-gr., var. d. angustifolia—Ls. narrow (1 in.).*
- P. 142, n. 3. *S. alata*  $\times$  *aquatica* =  $\times$  *S. Hurstii* Druce.—This hybrid has been recently discovered in Berks and Wilts by Mr. C. P. Hurst.
- P. 142, n. 5. *S. Scorodonia*, var. *viridiflora* Dr.—*Cor. pure gr.—Cornwall.*
- P. 142, n. 1. *Digitalis purpurea*, var. *nudicaulis* Saund.—*Lr. pt. of st. glabr., polished—Ls. less hairy.*
- P. 144, n. 7. *Veronica Anagallis-aq. L.*  
Inflorescence long and dense flowered; pedi. ascend.—Fl. usually pale blue—Fr. oval-obcord., narrowed below, with narrow notch at apex. When the rachis is glandular it is var. *glandulosa* Druce.  
*V. aquatica* Bern.  
Inflorescence lax flowered; pedi. horizont., patent—Fl. white or pale pk.—Fr. rather broad, not narrowed below, deeply emarginate. When the rachis is glandular it is var. *anagalliformis* (Boreau).



P. 144, n. 12 *bis*. \**V. acinifolia* L.—Alien, Eur. See B.E.C. 35, 1920.

Pl. annual, sm. gland.-pubesc., erect or ascending—Ls. sm. oppos., oval-ellip., feebly crenulate—Fl. beautiful bright blue, lr. lobe paler—Infl. term., racemose—Ped. ascending, 2-3 times longer than hairy 4-lobed cal.—Style 1 mm., not longer than flattened caps. ( $2\frac{1}{2}$  mm.), gland.-ciliate, with 2 orbic. lobes having a very narrow sinus.—Cult. ground, Surrey—Adventive.

P. 144, n. 1. *Euphrasia fennica* Kihlm. (*Exmoor, Connemara*) and *E. suecica* Murb. and Wetts. (*Grassington*), B.E.C. 169, 1912. *E. septentrionalis* Dr. and Lumb., B.E.C. 298, 1921. (*Caithness, Cornw.*) *E. Lumbii* Dr. (*Orkney, l.c.* 49, 1923). *E. variabilis*, Dr. and Lumb. (*l.c. Peebles*), have been discovered by the writer. *E. hirtella* Jord. (*J. of B.* 173, 1919), *Llanberis*. There is an earlier use of the name *variabilis* by Kerner, so the name *E. Lumbii* may replace it.

P. 146, n. 3. *Melampyrum pratense* L. See Beauverd Mon. (B.E.C. 41, 1917). True *pratense* Cor. not blackening after flowering, more or less rose-purple, rarely crimson—The basal anther-hairs conspicuously exceeding anthers-appendages except in those of the two exterior anthers; lr. bracts always entire. Plants of sunny places.

Var. *scotianum* (Beauv.). St. slender, sub-simpl. c. 10 cm.—St. ls. rather thick, scabrous ( $15-35 \times 2-3$  mm.), lower internodes short (10 mm.); st. ls. thickish, scabrid.; bracts ov.-lanc., broader than ls., lower ent.; cor. (10 mm.) yel. with white under lip, rose-striate, rarely bright crimson.

Var. *foliatum* Neum.—Pl. rather strong (25 cm.); branches oblique, erect, bearing ls. and fls. at apex, cotyledons present at flowering; st. ls. remote, ovate-lanc. (c.  $50 \times 5$  mm.); lr. bracts. ent. ( $40 \times 7$  mm.), upper cuneate-sub-hastate at base; cal.-tube about 2 mm.; cor. (13 mm.) white or yellow, turning pale purple. Sussex, Tyrone.

Var. *paludosum* Gaud.—Rigid, erect, slightly branched, c. 23 cm. high, branches short; st. ls. lin.-lanc. ( $54 \times 2$  mm.); cor. whitish (12 mm.).

Var. *montanum* (Johnst.).—St. short (8 cm. high), slightly hispid; branches short, few; ls. narr. ellip.-lanc. ( $20 \times 1\frac{1}{2}$  mm.) with 2-4 pairs of intercalary ls.; cor. pale yell., tube white.

Var. *ericetorum* D. Oliv.—Somewhat hispid. St. c. 15 cm., slightly branched, with few long branches (15 cm.) spreading horizontally; intercalary ls. (0-2 pairs), ellipt.-lanc. ( $35 \times 4$  mm.); cor. straw-yell. or pale.

Sect. *vulgatum* Pers. Cor. blackening after flowering, white, pale or deep yell.; basal hairs of anthers about equal to the anther-appendages (except those of the two ant. anth.); lr. bracts subdent., upper usually pect., rarely slightly dent.

Var. *brevidentatum* Beauv. Small hill plant, 12 cm. high, branched; ls. ov.-lanc.; glabr.; bracts cut or sub-dent.; cal. shortly dent., upper teeth  $1\frac{1}{2}$  mm., after flowering 3 mm.; cor. 11 mm., erect, closed, white, with pale yell. tip.

Var. *britannicum* (Beauv.) St. brittle (20 cm. high), axill. branches flex. arcuate, spreading, sterile or with few fl.; st. ls. ( $60 \times 19$  mm.); lr. bracts ent. ( $60 \times 8$  mm.), reflexed or patent; cal. 6 mm. long, with falcate filif. teeth; cor. (12 mm.) pale yell.

Var. *concolor* Schon. Inflor. starting from the 4th to 12th node (in *britannicum* from 2nd to 4th); intercalary ls. ovate-lanc. ( $35 \times 7$  mm.) in 3-5 pairs; lr. bracts deeply pectinate.

Var. *laurifolium* (Beauv.) (*latifolium* of last ed.). St. strong, up to 40 cm. high; branches (20 cm.) from base; cauline ls. ( $80-110 \times 15-22$  mm.); inflor. from 4th to 6th node; cal. 7 mm. inc. teeth; cor. (14 mm.) sulphur-white.

Var. *ovatum* Spenner, has shorter ls. ( $40 \times 16$  mm.) and less hispid stem.

Var. *lanceolatum* Spenn. (var. *angustifolium* Lange), narrower leaves ( $40 \times 8$  mm.). Widely distributed plant.

Var. *hians* Druce. Much branched; st. flexuous, 20 cm. high; ls. ovate-lanc. ( $35-70 \times 3-14$  mm.); glabrous; cor. deep golden-yell. (15 mm.), mouths open.

A broader-leaved plant (*platyphyllum* Beauv.) in W. Engl. and Ireland, ls.  $50-70 \times 10-14$ .

Var. *inlegerrimum* Döll. (pseudo-sylv.). Polymorphic with the facies of *sylvaticum*. Ls. narrow ( $35 \times 4$  mm.); upper bracts ent. or slightly dentate at base; cor. 12 mm., yellowish-green, the tip yellow.

P. 146, n. 1. *M. sylvaticum* L., var. c. *nephelobium* (Beauv.)—Ls. ( $30 \times 3-5$  mm.)—Cor. citron-yellow—Inflor. from 2nd to 4th node. Perth, etc.

P. 146, n. 2. *Rhinanthus Crista-galli* L., var. *robustus* Dr., B.E.C. 300, 1921. Pl. robust, 1-2 ft.—Ls. broad—Caps. 2 cm. diam.

P. 149, n. 3. *Utricularia intermedia*, var. b. *ochroleuca* (Hartm.). Green assimilating ls. always bearing a few bladders—Leaf-tip gradually attenuated into a long point—Cor. pale sulphur-yellow.

P. 150, n. 1. *Ping. grandiflora*  $\times$  *vulgaris* = *P. Scullyi* Dr., B.E.C. 301, 1921.

Mentha. For a description of many new British varieties see J. Fraser in B.E.C. 613, 1924. The plants were named by M. Briquet of Geneva.

P. 150, n. 2. *M. niliaca* Jacq. precedes and covers var. *molissima* Benth. and *villosa* Huds.

Var. d. *Weinerniana* Briq.—Pl. strong—Ls. finely serrated, broadly lanc., green and hairy above, grey-toment. beneath ( $3-8 \times 1-3$  cm.).

Var. e. *sapida* (Tausch)—Ls. faintly toothed, oval-ellip., canescent below, with short hairs.—Forfar, etc.

P. 150, n. 4. *M. piperita* L. var. *Druceana* Briq. Ls. oval to ovate, cuneate at base, upper rounded at base, without auricles—Serratures small and few.

P. 152, n. 8. *M. gentilis*, add "cal. shortly campanulate."

P. 152, n. 1. *Lycopus europæus*, var. b. *pubescens* Benth. Pl., inc. stem, with shaggy white hairs.

P. 153, n. 10. *M. rubra*, add "cal. long, tubular."

#### KEY TO THE GENUS THYMUS (K. Ronniger).

P. 154, 1a. Leaves of delicate consistence, always glabrous, nervature not projecting on the lower surface; plants not repent; flowering shoot always goniotrichous (2 or 4 rows of hairs). *T. pulegioides* L., sens. lat.

2a. Sub-erect; stem fairly high, often 20-25 cm.; leaves relatively large, averaging 9 mm. long and 5 mm. broad; inflorescence as a rule elongate, interrupted, the lower verticils remote. *T. pulegioides* L., sens. stric. (= *T. ovatus* Mill).

2b. Pseudo-repent; stem shorter and thinner, often only  $\frac{1}{2}$  mm. thick; leaves small, averaging 6-8 mm. long and 3-4 mm. broad; inflorescence often capitate when flowering, but also frequently elongate with lower verticils remote, especially when fruiting. *T. glaber* Mill (= *T. Chamædrys* Fries).

1b. Leaves of firm consistence, rigid, small, the nervature projecting on the under surface, glabrous or hirsute; plant always repent; inflorescence almost always capitate. *T. Serpyllum* L., sens. lat.



P. 154, 1a.—*continued*.

3a. Flowering-shoot hirsute on all sides.

4a. Leaves glabrous or bearing only a few scattered hairs on the surface. *T. Serpyllum* L.

5a. Leaves elongate-elliptical, 2-2.5 mm. broad. Type-form, var. *Linnaeanus* Gren. et Godr.

Internodes very short, var. *ericoides* Wimm. et Grab., non Borbas.

Upper part of flowering-shoot villose, var. *rigidus* Wimm. et Grab.

5b. Leaves obovate or elliptical, 3-4 mm. broad, var. *silvicola* Wimm. et Grab.

4b. Leaves hairy on the upper surface.

6a. Leaves moderately hirsute; flowering-shoot with short, reflexed hairs, those of the uppermost internodes being rather longer. *T. pycnotrichus* (Uechtr.).

6b. Entire plant densely villose with grey hairs which, at least on the uppermost internode, are equal in length to diameter of stem. *T. lanuginosus* Mill.

3b. Flowering-shoot goniotrichous (two surfaces hairy and two glabrous).

7a. Inflorescence capitate and remarkably large, when hermaphrodite having a diameter of 1½-2 cm.; leaves obovate-elliptical, relatively large, averaging 5-8 mm. long and 3-3½ broad, usually scantily hirsute on the surface, less often almost glabrous. *T. Drucei* Ronn.

7b. Inflorescence capitate and of medium size, when hermaphrodite at most 1½ cm. in breadth; leaves smaller and narrower, mostly only 1½-3 mm. broad.

8a. Leaves glabrous or with only scattered hairs on the surface. *T. neglectus* Ronn.

8b. Leaves hirsute on the surface. *T. britannicus* Ronn.

*T. zetlandicus*, Ronn. & Dr., B.E.C. 450, 1924, belongs to sect. 3b. Differs from *Drucei* in the more strongly hairy and smaller ls. with long (2 mm.) cilia—Zetland etc.

For full description, see B.E.C. 226-239, 1923.

P. 154, n. 1 *bis*. \**Satureia montana* L.—Sm. woody perennial (15-40 cm.), pubesc. branches erect or ascend., rough, very leafy; ls. lanc.-lin., coriaceous, acute, arrowed at base; shining; fl. white or pale rose; cal. tubular, teeth unequal, nearly as long as tube; cor. projecting, tube 6 mm.—Nat. at Beaulieu Abbey.

P. 154, n. 2 *bis*. *S. Calaminthoides* (Reichb.) Dr. = *villosa* (Boiss.) = *bætica* B. & R.—Habit of *Nepeta*, more hirsute, hairs of throat included; corolla lilac-pink, rather larger than *Nepeta*. Ls. smaller than in *adscendens*. May prove distinct from the Peninsular plant. Corfe Castle. See B.E.C. 48, 1922; 52, 1923; and J.B. 190, 1923.

Gen. V. *bis*. \**Hyssopus* L.—Cor. blue or viol. (4 mm. longer than cal.) in unilateral spike; cal. tub. (4-5 mm.), 15 nerves, glabr., throat naked (in *Thymus* hairy), with 5 nearly equal teeth. Pl. perennial, aromatic, woody at base. S. Eur. *H. officinalis* L.—Nat. at Beaulieu Abbey.

P. 156, n. 1. *Prunella vulgaris*, var. *b. dunensis* Dr.—Pl. small (3-4 cm.) with arched lower branches; ls. sub-ent. or with few blunt teeth; thinly clothed, as is the stem, with strong white hairs; inflor. in short compact heads (1-1.5 cm.); bracts large, fringed with white hairs.—Welsh sand-dunes, etc.



- P. 156, n. 3. *Stachys sylvatica* L., var. *immaculata* Cutt.—Cor. not spotted, pl. viridescent.
- P. 158, n. 1. *Ajuga reptans* L., the var. *pseudo-alpina* may be identical with var. *alpina* Koch.  
Var. c. *stolonifera* Bogenh., with numerous flowering scions. Britton in B.E.C. 331, 1923.
- P. 158, n. 2. *A. pyramidalis* L.—Inflor. dense, pyramidal; bracts longer than fl., broadly ov., obt., ent. or feebly sinuate, narrowing from below upwards; lower leaves large, persisting after flowering in an appressed rosette; rootstock oblique, without stolons; fl. bluish-purp. A hybrid of this with n. 1 occurs in Suth., Co. Clare.
- P. 158, n. 2 bis. *A. genevensis*, L.—Inf. not pyr., in an elongated spike; lower bracts ov., unequally crenate, middle bract trilobed, upper shorter than the clear bright blue (or rose) fl.; radical ls. upright, perishing after flowering; lower stem ls. wedge-shaped, crenulate at top, upper shorter and broader; rootstock short, stolonless. Pl. 1-3 dm. high, very hairy. Berks.; adventitious in Cornwall.
- P. 160, n. 1 bis. \**Plantago Cynops* L. (B.E.C. 35, 1920).—Pl. 10-40 cm., pubesct.: st. woody at base, much branched; bract oval, the outer with long gr. point; upper bracts shortly mucron.; cal.-segm. unequal; cor. whitish, glabr.; seeds opaque (in *indica* shining). Probably introduced. Kent.
- P. 160, n. 2. *Plantago Coronopus*, var. d. *sabrina* Card. and Baker.  
*Ls. spath.*, or *ov.-lanc.*, rosulate, thick, fleshy, shining, with strong but short teeth, spike short cyl.—*Steep Holme*.  
Var. e. *lanosa* (Edmond.)—*Ls. prost.*, cylind. or semi-cyl., woolly at base; spike globular—*Northern Coasts*.  
Var. f. *Edmondstonii* Dr., in B.E.C. 41, 1920—*Ls. crowded, lanc.* (30-40 mm.), fleshy, thickly covered with white appressed hairs—*St. with strong short hairs*—*Spike 18-24 mm.*—*Rootstock elong., crowded with dead ls. of preceding years*—*Balta Zetland, perhaps a distinct sp. or a hybrid lanc. × marit.*
- P. 160, n. 6. *P. maritima*, var. d. *Hudsoniana* Dr.  
*Rhizome woody, very prolonged*—*Ls. thin, narrow, nearly entire, 3-nerved*—*Mts. (P. alpina Williams)*.
- P. 160, n. 4. *Plantago lanceolata* L., var. *elliptica* Druce.—Leaves broader than in type, elliptical in outline.
- P. 160, n. 6. *Plantago media*, var. b. *lanceolatiformis* Druce.  
*Ls. erect or ascending, broadly lanc.* (16 × 4 cm.), tapering, recurved.
- P. 160, n. 7. *P. major*, var. c. *pubescens* Lange.  
*Pl. sm. hairy.*—*Dunes, etc.*
- P. 162, n. 7 (2). \**Chenopodium Berlandierii* Moq. (N. Amer.)—Like *opulifolium* with obt. ls., rhomboid to ovate, often indistinctly trilobed anteriorly (distinguishing it from *album*), clearly rounded, but having a delicate short mucro; grey-gr. Waste ground; adventive.
- P. 162, n. 7 (3). \**C. striatum* Murr. (India).—*Ls. like ficifolium*, very obt.; lateral lobes short or inconspic.; gr. to bright gr., almost shiny, venation anastomosing, often sinuately toothed; stem and flagelliform branches brightly red-striped; glomerules sm., olive-gr. Waste ground; adventive.
- P. 162, n. 7 (4). \**C. hircinum* Schrad. (S. Amer.).—Like *ficifolium*; ls. very variable; lateral lobes usually elongate and bipartite; foetid; mealy.  
For forms, varieties, and hybrids of *C. album*, see B.E.C. 302, 1921.
- P. 164, n. 5. *Atriplex hastata*, var. *oppositifolia* DC.  
*Ls. for the most opposite, deltoid or sub-hastate, entire or nearly so.*

P. 164, n. 2. *S. europæa* L.

Dr. Moss. has given the following key for distinguishing the forms of the annual *S. europæa* L. :—

Erect:

Terminal flowering spikes long (up to 3-5 cm.) obtuse; *S. europæa* Linn.  
o = (*S. herbacea* Linn.).

Terminal flowering spikes short (usually less than 1 cm.).

Flowering spikes acute tapering = *S. ramosissima* Woods.

Flowering spikes obtuse:

Branches curved, graceful; flowering segments almost globular; *S. pusilla* Woods.

Branches simple, subequal, parallel, stout, rigid; *S. gracillima* Moss.

Segments freely disarticulating; cymes uniflorous; *S. disarticulata* Moss.

Prostrate or procumbent:

Flowering spikes obtuse; *S. Smithiana* Moss.

Flowering spikes acute; *S. appressa* Du Mortier.

He has also described another species, *S. dolichostachya*—Lateral fl., usually separated by the terminal one and therefore a link with *S. perennis*. It has long flowering spikes.

P. 164, n. 2. *Suaeda maritima*, var. c. *macrocarpa* Moq.

*Ls. blunter, seeds lge. (2.5-4 mm.).*

P. 164, n. 11. *Polygonum minus*, var. b. *erectum* Rouy—*Pl. erect*

P. 166, n. 14. Dr. Lindman separates *P. aviculare* into two species.

(1) *P. heterophyllum*, which has the leaves of two very different sizes, the cauline ones large and broadly lanc. or obov., lanc. or sub-lin., those of the branches about half the size, acute, pale green—Perianth usually pink or rose-pk., as long or longer than the pale chestnut-coloured, trigonous, concave-sided nut.

Var. *boreale* Lindm.—Sub-simple—*Ls.* more equal in size, obtuse, and often rather fleshy—Loch Leven.

Var. *angustissimus* (Meisn.)—*Ls.* long, narrow, attenuate—Ochrea long, conspic.—Nut narrow-lanc.

(2) *P. æquale* Lindm.—Leaves subequal in size, obtuse, of a dull glaucous or grey-green—Perianth usually whitish, rather shorter than or equalling the darker brown or black, trigonous, concave-sided nut—Hybrids of these two and with *calcatum* occur.

*P. calcatum* Lindm.—Like *aviculare*, but with the nut subtrigonous to sub-facial, with convex sides.

P. 166, n. 16 bis. \**P. sachalinense* Schmid.—Alien—Resembles *cuspidatum*—Strong pl., 3-4 metres; st. angular, striate—*Ls.* large, broadly ov., acum., glauc. beneath; fl. greener than cusp.—Alien—Sachalin.

P. 168, n. 1b. *For latifolia* read *× R. Weberi* Fisch. Benz. (Hydrolap. *× obtusifol.*).  
n. 2. Delete *R. conspersus* (which is *aquaticus × crispus*). Our plant is *domesticus = longifolius × crispus*.

n. 6. *For conglomeratus* read *viridis* Sibth.

n. 10. *For limosus* read *palustris* Sm. (*limosus* is *marit. × congl.*).

P. 168, n. 12. Add 12 bis. *R. arifolius* Willd.—See B.E.C. 58, 1923—Differs from *Acetosa* by the thinner texture of *ls.*; patent auricles; entire ochrea; somewhat smaller fruit-valves; and dull yellowish-gr. fr.—Scotch mts.

P. 168, n. 13. *R. Acetosella* L., var. b. *McLeanii* Dr. (B.E.C. 60, 1923)—*Bract. silvery, very conspicuous (6 mm. long).*

Var. c. *gymnocarpus* Cel.—Perianth segm. not adhering to nut (in *angiocarpus* they adhere).

P. 172, n. 8. *Euphorbia amygdaloides × pilosa = × E. Turneri* Dr.—With parents near Bath. Very rare.



- P. 172, n. 9. \**E. Esula* L.—Ls. narrowly ellipt., broadest at or above middle, narrowed at both ends, sub-obt.; fr. cusps. short, narrow.—Delete var. *lutescens*, which is *virgata*.
- P. 172, n. 9 *bis*. \**E. virgata* W. & K.—Ls. gradually narrowed to attenuate acute apex, linear-lanc. or lanc., broader below middle, glab., firm in texture; fr. cusps. broad, stout.—Adventive from Centr. Europe. Railway-banks, etc. An increasing alien.
- P. 174, n. 1. *Ulmus scabra* × *glabra* Mill. = *U. vegeta*—The Huntingdon Elm—Lr. branches ascending—Ls. lge.—Branchlets nearly glab. (the terminal one 5 in.), petioled, smooth and shining above, acute-acum.—With suckers.
- P. 174, n. 2. *U. glabra* Mill. × *scabra* = *hollandica* Mill.—*U. major* Sm.—The Dutch Elm—Lr. branches horizontally spreading—Terminal ls. acute (4 in.), minutely pubesc.—Stem branches often very corky—With suckers.
- P. 174, n. 3. *U. stricta* Lindl., var. *b. sarniensis* (Loud.) = *Wheatleyi*.  
Tree sub-pyramidal in outline—Branches sub-fastig., rather broader than in var. *b*.—Peti. glandular—Channel Isles, etc. This is doubtless the *U. minor* Mill.
- P. 174, n. 4. *Ulmus Plotii* Dr.  
A very graceful tree, 50-110 feet, with somewhat secund. and very pendulous lower branches—Bark smooth—Ls. ovate-lanc. acum., bluntly serr.—Upper ls. smooth, shining—Young branches nearly glab.—*U. minor* Henry. *U. sativa* Moss—East Eng., Noths. to Essex, Fermanagh, etc.
- P. 174, n. 1. *Urtica dioica*, var. *e. subinermis* Uechtr.  
Ls. nearly devoid of stinging hairs—Shady places.  
Var. *d. rotundata* Dr. (B. 1. C. 507, 1921)—Ls. roundish,  $5\frac{1}{4} \times 6$  cm., rugose, coarsely toothed.
- P. 176, n. 1. *Betula alba*, var. *parvifolia* (Regel).  
Ls. sm., twigs pubesc.  
*B. alba* × *B. pubescens*.—This hybrid, or intermediate plant, is not uncommon.
- P. 176, n. 2. Read *Alnus Alnus* (L.)—Young branches glabrous, ls. sub-orbic. or obovate, obt., trunc. or emargin., green and glabrescent above and below; 6-9 pairs of veins; secondary fr. stalked.  
Var. *b. laciniata* (Ehrh.)—Ls. deeply cut.—Rare.  
Var. *c. macrocarpa* (Req.)—Fem. catkins 3 cm. long.  
Var. *d. microcarpa* (Uechtr.)—Fem. catk. 1-5 cm. long.
- P. 176, n. 2. \**A. incana* Willd.—Young branches pubesc.; ls. ovate pointed or shortly acum., greyish or pubesc.-tomentose below, with 10-15 pairs of secondary veins; fr. nearly sessile.—Planted. Hybrid with n. 1 occurs.
- P. 180, n. 1. *Populus canescens* Sm. is probably a true species.
- P. 180, n. 3. Hybrids of *P. nigra* and *P. deltoidea* (*serotina*) have been reported. One, a tree, frequent in the East. counties, has the branches more ascending than in true *nigra*, the leaves larger, more distinctly serrated, with incurved teeth, and more cuneate at base.
- P. 182, Gen. I. *bis*. \**Hydrilla verticillata* Presl, var. *pomeranica* (Reichb.) Dr.—Allied to *Anacharis*, but differs in the pale green leaves in whorls of 4, 5, or 6, narrowly linear (1-2 mm.), acuminate; teeth projecting beyond the leaf-margin; scales fringed; plant dies in autumn. Discovered in Esthwaite Water by Mr Pearsall. Barren in England. Only known in Europe in the Lakes of Pomerania and Lithuania, where it does not fruit. Native of India.
- P. 184, n. 1. *Helleborine palustris*, var. *b. ericetorum* (A. & G.) Dr.—Small (1 dcm.)—fl. rose-coloured—ls. firmer, narrower, sub-lanc.—Sand-dunes.



- P. 184, n. 2. *Helleborine latifolia* Dr.—Cross-fertilised—rostellum distinct, prominent.  
 Var. b. *angustifolia* Dr.—*Ls.* narrow, oval, acute.  
 Var. c. *atroviridis* (Lint) Dr.—*Bracts* longer and more leafy—*ls.* broader and darker gr.—*Derby, etc.*  
*H. Crowtheri* Dr.—A hybrid of *latifolia* and *atropurpurea* occurs at Grasington.
- P. 184, n. 2 bis. *H. leptochila* (Godfr.) Dr. (J. of B. 146, 1921) (*viridiflora* pp.)—Self-fertilised, rostellum rudimentary—*lr. bracts* longer than gr. fl.  
 Var. b. *vectensis* (Steph.)—*St. sol.*—*lr. bracts* scarcely longer than fl.—*rac. lax, few fl.*—*fl. gr. sm.*—*Ventnor.*  
 Var. c. *dunensis* (Tr. & Wheld.) Dr.—*St. sol.*, 2-5 dcm.—*ls. yellowish-gr., lower ellipt.-lanc.*—*fl. gr. few, not wide open*—*per. segm. more acute*—*Sand-dunes, West Coast.*
- P. 186, n. 5. *Orchis morio* L., var. b. *Churchillii* Dr. (B.E.C. 48, 1920)—*Fl. much larger*—*Labellum* 10-13 mm. broad, middle lobe often truncate and then shorter than lat. lobes.
- P. 186, n. 6. *O. latifolia*—or what passes for it—has spotted leaves of a duller green, which are usually broader in the middle and flat at the apex, the flowers more distinctly three-lobed, of usually a pale lilac colour, and more pronounced markings of a dark purple. Much of British so-called *latifolia* is a hybrid of *O. prætermissa* and *O. Fuchsii* or *maculata* (*O. Hallii*).
- P. 186, n. 6 bis. *O. incarnata* L., full sp. var. b. *pulchella* Dr. in B.E.C. 167, 1917.—*Fl. rich purp., lip* broader and less reflexed, not trifid nor trilobed; margin crenated or angled. Chiefly in the North.
- P. 186, n. 6 ter. *Orchis prætermissa* Dr. (see B.E.C. 149, 1917; 64, 1923). Marsh orchid.—*Ls.* unspotted, clear light green, narrowed from the base upwards, often keeled and hooded. *Fl.* usually dull purple, more or less marked with darker purple; *labellum* flat or only slightly recurved at the sides, more or less tri-lobed, broader than long. Differs from *incarnata*, which has flesh-coloured, pale dull lilac, white or brighter crimson or purple flowers, the *labellum* of which is faintly three-lobed, with the margins much recurved, so that the flower, when viewed from the front, appears narrow.  
 Var. *pulchella* Dr. (B.E.C. 576, 1919).—*Pl.* 10-30 cm., *inflo.* 25-70 mm. long, with *bracts* as long or longer than the showy fl. of purp., purplish-rose, dark bluish-purp., rarely pale rose or white; *labellum* smaller than type (6-12 mm. broad), broader than long, with the sm. central lobe as long or longer than the broad side-lobes, which are often angled or notched, often marked with darker and sometimes well-defined lines, confluent dots or hieroglyphics.  
 Hybrids of *prætermissa* with *Fuchsii*, *maculata*, *incarnata* and *Gymnadenia* (*H. Wintoni*) Dr. occur.
- P. 186, n. 6 quat. *O. purpurella* Steph. chiefly differs from *pulchella* in the *ls.* being sometimes spotted; *labellum* diamond-shaped, flat, deep crims. purp.; tip pointed, incurved.
- P. 186, n. 7. *Orchis maculata* L., B.E.C. 99, 1914; 323, 1923.—*Leaves* usually spotted, *inflorescence* often conical; *corolla* of different shades of lilac or purple, or sometimes pure white with darker markings; *labellum* tri-lobed, the lateral segments larger than the middle one, and as long or longer. Mainly found in heathy situations on acid soils, or on primitive rocks.  
 Var. b. *leucantha* Dr., B.E.C. 213, 1915.—*Fl. white.*  
 Var. c. *macroGLOSSa* Dr., B.E.C. 579, 1919.—*Labellum* large (18-22 × 10-12 mm.).  
 Var. d. *subintegriflora* Dr., B.E.C. 316, 1921.—*Lab. nearly circ. with sm. cent. notch with very sm. cent. lobe.*

- P. 186, n. 7 *bis*. *O. Fuchsii* Druce (see B.E.C. 99, 1914; 322, 1923).—Of a stiffer habit than the preceding; ls. normally strongly spotted; infl. usually cylindric; corolla lilac with darker purple markings often very definite; labellum tri-lobed, the middle segment as large and longer than the lateral. Native of woodlands and pastures, mainly on basic soils. Under this comes var. *tridentata* Breb. (B.E.C. 455, 1924).  
 Var. *b. albiflora* Dr.—*Fl. white*—*Ls. spotted*.  
 Var. *c. insignis* Dr.—*Lilac fl., strongly marked with dark purple lines*.  
 A hybrid with *maculata* *O. transiens* Dr. occurs, and hybrids with *pratermissa*, *Gymnadenia*, etc.
- P. 186, n. 7 *ter*. *O. O'Kellyi* Druce.—Rather slender; flowers pure white or with roseate tinge in the throat; labellum of three small sub-equal divisions, the middle one longer than the lateral; leaves unspotted. Calcareous areas of the Burren, Co. Clare, W. Sutherland, etc.
- P. 186. *Orchis laxiflora* and *morio* =  $\times$  *O. alata* Fleury. This hybrid was found at St. Ouen's, Jersey, by Mr. T. W. Attenborough.
- P. 186, n. 9. *Orchis mascula*, var. *obtusiflora* Koch.—*Lobes of the perianth blunt*.—*Local*.
- P. 188, n. 1. *Habenaria Gymnadenia* or *conopea*, var. *b. densiflora* (Wahl.)—*Pl. more robust*—*Spikes longer and denser*—*Spur shorter and obtuse*—Bogs, etc., Eng. and Ireland.  
 Var. *c. borealis* Dr. in B.E.C. 172, 1917.—*Pl. 1-5 dcm.*—*Ls. 5 mm. broad*—*Spurs thick, as long as ovary*—*Fl. dark purp. (3  $\times$  2½ mm.)*—*Middle lobe of labellum larger than lateral*.  
 Var. *d. spiralis* (H.—Har.)—*Fl. lilac, lateral sepals spirally twisted, lip narrow, more deeply cut than type and bent backward*.
- P. 188, n. 3. *Ophrys apifera*  $\times$  *fucifera* Kent.
- P. 200. *Juncus maritimus* Lam., var. *atlanticus* white; plant tall (12-14 dcm.); panicle diffuse, decomposed, much elongated; bracts short. Scilly Isles.
- P. 200, n. 12. *J. Gerardi* Lois.—Inflorescence compact, pale, many flowered; is said to be *J. soranthus* Schrank? var. *conglomeratus* (Meyer).
- P. 200, n. 14. *Juncus bufonius* L., var. *ranarius* (Nees).  
*Densely tufted*—*Inner perianth segm. as long as, or not much longer than, caps., which is a little narrowed at base*—*Said to be a distinct species*.
- P. 204, n. 1. *Alisma Plantago-aq.* var. *latifolium* Kunth.—*Pl. robust*—*Ls. large, ovate, acute, with rounded or cordate base*.
- P. 206, n. 1. *Triglochin maritimus*, var. *sexangularis* Reichb.  
*Pl. smaller and less succulent than the type*—*Caps deeply six-angled, constricted at neck*.
- P. 206, n. 1. Students of Potamogeton are referred to Hagström's "Critical Researches on the Potamogetons," 1916.
- P. 206, n. 4. *Potamogeton coloratus*  $\times$  *pusillus* = *P. perpusillus* Hagstr. Co. Clare. To this should be referred the var. *hibernicus* of n. 6.
- P. 206, n. 3. *P. alpinus*  $\times$  *gramineus* = *P. nericus* Hagstr. (B.E.C. 49, 1920). River Don, Alford. Druce.  
 Hagström identifies *P. Griffithii* Benn. with *P. nerviger* Wolfg., a much older name. *P. alpinus*  $\times$  *polygonifolius* = *P. spathulatus* Schrad. Jersey.
- P. 206, n. 8. *P. gramineus*  $\times$  *polygonifolius* = *P. Seemeyi* A. & G. River Laune, Kerry. Druce.
- P. 208, n. 14. *P. crispus*  $\times$  *alpinus* = *P. venustus* Baag. River Earn.
- P. 208, n. 16. *P. acutifolius*  $\times$  *pusillus* = *P. sudermanicus* Hagstr. Sussex.



- P. 208, n. 18. *P. pusillus*, var. *g. lacustris* (Pearsall).—*Ls. broader, lighter green, apices more obtuse; propagates by winter buds.—Lake District.*  
*P. franconicus* Fisch.—A hybrid with *trichoides*. See B.E.C. 152, 1921.  
 Hagström says *P. Sturrockii* Benn. is a hybrid with *panormitanus*.
- P. 208, n. 18 bis. *P. panormitanus* has the *ls. stiffer, lighter gr., more acute; stipules connate to two-thirds (in pusillus they are open, convolute).*  
 The var. *minor* Biv. occurs near Lewes, and the hybrid with *P. pusillus* = *P. dualis* Hagstr. (B.E.C. 152, 1925), Berks, etc., and with *P. trichoides* = *P. trinervius* Fisch., l.c. 152, Norfolk, Northants, etc.
- P. 208, n. 19. *P. rutilus*. Anglesey, Orkney, Zetland (Druce).
- P. 208, n. 20. A hybrid with *pusillus* occurs.
- P. 210, n. 21. *P. interruptus*, var. *ungulatus* (Hagstr.).—*Pl. stouter, ls. broader, apex unguiform mucronate, or abruptly cuspidate.*  
 Var. *diffusus* (Hagstr.) is not uncommon.—*Lf. apex gradually tapering to an acute point.*
- P. 210, n. 22. *P. pectinatus* × *filiformis* = *P. suecicus* Hagstr. Zetland (Druce).  
 This is the *P. vaginatus* Benn. in "British Pondweeds," not of Turc.
- P. 211, n. 1. bis. *Zannichellia palustris* L., var. *d. gibberosa* (Reichb.).  
*Fr. with spines on both dorsal and ventral sutures, sessile or shortly petiolea —Northants, etc.*  
 Var. *e. gracilis* Dr.  
*Pl. diffuse—Ls. narrower and shorter than type.*
- P. 212, n. 3. A hybrid *Scirpus Tabernaemontani* × *S. triqueter* = *S. arunensis* Dr. (B.E.C. 68, 1923). River Arun. This is mostly the *carinatus* of Brit. authors.
- P. 214, n. 6. *S. caespitosus*, var. *b. austriacus* (Palla) A. & G.  
*Uppermost sheath with mouth only slightly cut (1 mm.), with narrow whitish, or pale brownish, closely appressed margins—Spikes sm. and few flowered—Older sheaths larger and more loosely arranged, bright pale br., shining—Deep. Eriophorum turf moors—The type is a more slender plant with mouth of sheath deeply cut (3 mm.), with mostly red-coloured, loosely appressed memb. margins—Spikes lge. many fld. —Older sheaths dull, pale brownish.*
- P. 214, n. 8. Add to names, Dorset, Carnarv., Merioneth.
- P. 214, n. 10. *S. setaceus* L., var. *pedicellatus* Dr., B.E.C. 68, 1924. *Spikes stalked, in type sessile.*
- P. 216, *Carex riparia* Curt., var. *gracilis* C. & G. *Fem. spike, lax-flowered, long peduncled, scales long, cuspidately awned.*
- P. 216, *Carex lasiocarpa* × *riparia* = × *C. evoluta* Hartm. N. Somerset peat moor.
- P. 218. *Carex binervis* × *flava* = × *C. Corstorphina* Dr. Glen Phee, Forfar.
- P. 220, n. 30. For *flacca* use *C. diversicolor* Cr., the earlier name.
- P. 222, n. 40 (2). *C. spiculosa* Fr.  
*Glume elongate, not serrulate, North Harris.*
- P. 224, n. 50. *C. remota*, var. *subloliacea* A. & G.  
*Differs from type in its much smaller and fewer fld. spikelets and more silvery glumes.*
- P. 228, n. 63. *C. aquatilis*, var. *g. rigida* A. Benn.—*Pl. tall (30 in.)—Ls. broad, thickly and strongly nerved, male spike short, stout, rigid, sess.—Fem. spikes thickly, densely compact—Fr. sub-rot.—Dumfries.*



- P. 228, n. 64 *bis*. *C. microglochin* Wahl. See B.E.C. 69, 1924.  
 Resembles *pauciflora*, but more densely tufted and has more numerous female fls. (4-10 as against 2-4) aggregated in a denser spike; fr., of darker tint, has a basilar setiform appendage (bristle) longer than the utricle; glume dull reddish-br., oblong (*pauciflora* pale and lanc.). Glen Lyon, Lady Davy, and Miss Bacon.
- P. 230, n. 1. *Alopecurus pratensis* L., var. *b. caesi*us A. Schwarz.  
 Var. *b.* Stem glaucous, sheaths more inflated.  
 Var. *c. bulbosiformis* Dr. Base of stem bulbous.—Salt marshes.
- P. 232, n. 1. *Phleum pratense*, var. *e. intermedium* (Jord.)—More robust and taller than *nodosum* (3-7 dcm.), of which it has the swollen stem-base; st. less bent below; pan. longer (8-10 cm.). To a large extent it is the Scottish Timothy Grass.  
 Var. *f. armatum* Dr. in B.E.C. 55, 1917.—Awn as long or longer than gl.—Root fibrous.—Often of alien origin.  
 Var. *g. longiaristatum* Parn. St. base nodose.—Awns nearly as long as gl.
- P. 232, n. 2. A less ambiguous name is *A. palustris* Huds.
- P. 232, n. 3. *A. capillaris* L. is said by Schinz & Thell. to be the valid name for this species.
- P. 234, n. 1. *Deyeuxia neglecta*, var. *Hookeri* occurs also in the Norfolk fens with *D. neglecta*.
- P. 234, n. 1. *bis*. *D. scotica* Dr. (*D. strigosa* A. Benn., not of Kunth) differs from *D. neglecta* by its larger, more acuminate glumes, and usually larger and more diffuse panicle. See B.E.C. 172, 1914. If *Deyeuxia* is merged into *Calamagrostis* it will be *C. scotica* (Dr.) as a full species.
- P. 234, n. 1. The older specific name for the British *Gastridium* is *ventricosum* (Gouan) S. & T.
- P. 236, n. 3. *Avena strigosa*, var. *a. pilosa* (Marq.) in B.E.C. 322, 1921.—Cilia on margins of lamina extending from ligule nearly to apex.—Outer palea of both fls. with long, stiff ascending hairs over the whole surface.  
 Var. *glabrescens* (Marq.)—Ls. as var. *a.*—Outer palea entirely glabrous.  
 Var. *c. orcadensis* (Marq.)—Lamina margins not ciliate—Outer palea scantily clothed with stiff ascending hairs from immediately below the point of attachment of the awn to near the base of the two apical hair points—The rest of the outer palea below the attachment of the awn entirely glabrous.
- P. 238. *Phragmites* *Phragmites* Dr., var. *flavescens* (Cust.)—Panicle russet or golden brown. Cornw., Dev., etc. Var. *densior* Dr.—Pan. purplish-black; very dense flowered. Var. *effusa* Dr.—Pan. large, very open, and diffuse; plant robust. Var. *pseudo-Donax* Dr.—Leaves very broad; plant very robust.
- P. 240, n. 4. *Poa trivialis*, var. *septentrionalis* Dr. in B.E.C. 326, 1921.—Glumes about 15 per cent. longer and 20 per cent. broader than type—Rib more prominent and nearly glabrous—Pan. branches and spikelets rich violet-br.—Many elongate aestival barren shoots.—Shetland.
- P. 240, n. 2. *Poa pratensis*, var. *e. irrigata* (Lindm.).  
 Glumes narrower, less blunt, as long, or nearly as long, as the lower fl., tapering more gradually to apex—Spikelets longer, glauc., or pale purple-pruinose—The branches of inflorescence 2 and 2, not 3-5—Basal shoots distant and spreading—Fr. larger and considerably longer. Considered by Prof. Lindman to be a good species.—Sea-shores, wet shady places, wet alpine slopes.  
 Var. *f. latifolia* Weihe. Ls. 5 mm. broad, of a clearer green.

- P. 242, n. 11. *Poa annua*, var. *c. reptans* Haussk.

*Perennial, creeping.*

Var. *d. exilis* Tonn (remotiflora Hack.).

*Pl. very small—Spikelets long and laxly fld.—Upper usually female, very sm., lower hermaph.—Ch. Isles.*

- P. 242. *Glyceria maritima* Wahl., var. *f. deflexa* (Syme).

*Panicle open, with longer deflexed branches.*

Var. *hibernica* Dr. (the *festuciformis* of last ed.). True *festuciformis* is doubtfully British.

Hybrids with *G. Borreri* = *G. Burdoni* Dr. and with *distans* have been noticed.

The genus *Festuca* has been recently monographed by Mr. W. O. Howarth (see *Journ. Linn. Soc.* 1924, etc.).

- P. 248, n. 10. *Bromus hordeaceus* L., var. *c. (2), pseudo-racemosus* A. & G.

*Near leptostachys, but glumes with broad memb. border. Upper pale much shorter than caryopsis, fls. not closely imbricate; has been since described as B. britannicus by I. Williams.*

- P. 250, n. 2 bis. *Agropyron campestre* Gren. & Godr. (B.E.C. 73, 1924). Intermediate betn. *A. pungens* and *repens*. Spikelets sm., arranged as in *pungens*; gl. not awned, not very acute; less robust than *pungens*—Ls. glaucous, nearly flat, and (as are sheath and gl.) glabrous. Sussex.

- P. 250, n. 2. *A. pungens (littorale) × repens* = *A. Oliveri* Dr. Norfolk coast, etc.

- P. 250, n. 1. *Lepturus filiformis*, var. *b. incurvus* Dr. *Spikelets curved, anth. short 0.6 mm.—Seaford, Sussex.*

- P. 254, n. 1. *Pteris aquilina*, var. *b. lanuginosa* Hook.

*Underside of pinnæ lanuginose—The common form.*

It is more correctly *Eupteris aquilina* (L.) var. *lanuginosa* (Hook.) Dr.

- P. 264. *Lycopodium alpinum* L., sub-sp. *complanatum*.—Differs from *alpinum* in the very flattened branches, and in the leaves being longer and thinner (see B.E.C. 221 for 1915). Glos'ter, Arran, Glen Feshie, Cairngorms. = *L. alpinum* var. *decipiens*, p. 264, in part.



## APPENDIX II

These plants are additions to our flora since the 1926 edition of this book. For convenience of readers who may wish to know more respecting them, the references to the place of publication are in the most cases appended.

P. 4, n. 5. *Ranunculus scleratus* L., in England is rarely glabrous, and in many instances is var. *pubescens* R. & F.

P. 4, n. 7. *Ranunculus sardous* Cr., var. *Tuberculatus* Celak. Faces of achenes tuberculate.

P. 14, n. 14, a new Monograph of the Batrachia is in the Report B.E.C., 811, 1928, W. H. Pearsall.

P. 10, n. 2, *Papaver Rhoeas* T., var. *Troweriae* Dr. Pl. rather glaucous, with faces of *Lamottei* (dubium). Suffolk. See also p. 268.

P. 14, n. 3. *Cardamine impatiens*, add var. *poterriifolia* Dr. in B. E. C., 301, 1927. Lfts. over 1 inch long, outline of those of *Poterium Sanguisorba*.

P. 16. Gen. IX. 1. *Erophila verna* has been intensely studied by Prof. O. E. Schulz. He divides it into 3 species :

1. Upper surface of leaf with minute bifurcate and stellate hairs. Pods elongate oblanc. Ovary with 50-60 ovules—*E. verna*.

2. Ls. as above. Pods shortly obovoid or suborb. Ovary 24-48 ovules—*E. Boerhaavii* (Van Hall) Dum.

3. Ls. with generally simple hairs, a few rarely bifurcate. Pods shortly obovoid. Ovary with 20-40 ovules—*E. præcox* DC.

Under 1 there are many varieties, notably *Bardinii*, *affinis*, *cuneifolia*, *Salmonii* (ls. spath. obl. elliptic, acute entire or thinly toothed), *spar-sipila*, *radians*, *ædocarpa* (Drabble) (fls. medium sized, ls. oblanc., very small, narrowed to the base entire, or slightly toothed). Pod narrow obov.-lanc. 3-4 mm.  $\times$  2.25-2.5, terete; *cabillonensis*, *pyrenaica*, *hirtella*, *majuscula*, *americana*. *Krockeri* (pod 7-9  $\times$  1.5-1.75 mm.), and *acrocarpa* (pod 5-6.5 mm.  $\times$  1.5-2 mm.; a taller plant).

Under 2 *Boerhaavii* Dum., are many forms *crassiuscula*, *inflata*, *decipiens*, *brachycarpa*, *muricola*, *oxoniensis* O. E. S. (ls. elongate with stalk 1.5-2.8 mm., narrowly spath., each side with 1 tooth, about 4.6 mm. broad above the middle, distinctly narrowed into the stalk); *macrophylla* O. E. S. (ls. large with stalk 1.2-5 cm. long, obovate 1-2 toothed, 4-10 mm. broad above the middle). *Drucei* O. E. S. (Pl. 3.5 cm. high, ls. narrowly spath, 5-1.5 mm. long, with stalk, entire sep. 1.5 mm., pet. 3-4 mm. long). Oxon, Berks.

Under 3 *præcox* DC. are *Moricandii* O. E. S., *virescens*, *subnitens*, and *microcara* O. E. S. (pods sm. 3-3.5  $\times$  1.5-2.5 mm.).

For a full account, see O. E. Schulz in Das Pflanzenreich 89, Heft (IV. 105), pp. 343-372, 1927; C. E. Salmon in J. of B., 234, 1928; and G. C. Druce in B. E. C., 609, 1928 and 1929.

P. 20, Gen. XIX. *Bursa* (*Capsella*) *rubella* (Reut.). Sep. glabr. purplish; petals scarcely longer than sep. Pods much narrowed at base, more or less concave, notch large, lobes divergent and rounded. Pl. often suffused with purple. Bucks and Surrey. B. E. C.



- P. 24, n. 3. *Under Viola sylvestris insert arenicols* Chabert. The pivotant root with thickened and scaly branches 1.5 cm. long; ls. small, obtuse glab., strongly reddish veined below, and the lower ls. in a persistent rosette. The plant is duller and darker in colour than the type. Fls. pale, spur white or lilac-white, obtuse. B. E. C., 610, 1928.
- P. 26, n. 12. *Under Viola tricolor observe that Dr. E. Drabble has in J. of B.*, 263, 1926; 129 and 160, 1927; 69, 1929; and B. E. C., 191, 1927; 794, 1928, described and detailed the habitats of the British pansies. His new species include *V. orcadensis*, *V. latifolia*, and *V. anglica*.
- P. 26, n. 1. *Polygala serpyllifolia* Hose (precedes serpyllacea), var. *decora* C. E. S., seems to be covered in *major* (Rouy. & Fouc.).
- P. 36, n. 7. *Sagina Reuteri* is well described by Pearsall in B. E. C., 460, 1927.
- P. 50, n. 3. *Ononis spinosa* L., var. *parviflora* (Rouy) Dr., in B. E. C., 302, 1927. Pl. more slender, stems diffuse, spines strong, ls. much smaller than type. Bucks.
- P. 50, n. 3. *Medicago arabica* Huds., var. *longispina* Rouy, B. E. C., 21, 1926, and 303, 1927. Spines subulate, curved, longer than the pod is broad.
- P. 50, n. 4. *Melilotus indica* All., var. *exaltata* Biv., B. E. C., 303, 1927. Pl. 4-8 dcm., ls. larger, inflorescence laxer, 1.5-2 as long as leaf. Var. *laxiflorus* Rouy, B. E. C., 611, 1928. Larger than the type, with laxer inflorescence, smaller and paler flowers and smaller pods.
- P. 52, n. 1. *Trifolium medium* Huds., var. *pedunculosum* Ser. Fls. shortly stalked.
- P. 52, n. 7. *Trifolium arvense* L., var. *strictius* Koch. = *T. gracile* Thuill., var. *agrestinum* (Jord.), B. E. C., 612, 1928. Flowers larger than type.
- P. 58, n. 11. *Vicia sativa* L.; for varieties see B. E. C., 768, 1925.
- P. 58, n. 13. *Vicia lathyroides* L., var. *Olbiensis* (R. & S.) Druce, B. E. C., 304, 1927. Stems (2-4 dcm.), ls. proportionately longer and narrower; lfts of the lower ls. obl.-cuneiform, of the upper ls. narrow, sublinear, attenuate and apiculate; tendrils of the upper ls. much longer than the other lfts., strongly circularly curved at the apex; pods longly and feebly incurved.
- P. 60 n. 10. *To Lathyrus montanus add var. variifolius* (Martr.-Don) Druce in B. E. C., 769, 1925. Basal ls. ovate, obl., upper narrowly and longly lanceolate.
- P. 60, n. 5. *Lathyrus palustris* L., add var. *linearifolius* Ser. (Druce in B. E. C., 614, 1928). Ls. narrowly lin.-lanc. pointed.
- P. 64, Gen. VIII., and p. 273. *Alchemilla vulgaris* L. New micro-species include *A. britannica* Jacq. & Dr., B. E. C., 305, 1927, Teesdale; *A. colorata* Bus., B. E. C., 23, 1926; *A. coriacea* Bus., *A. Salmoniana* Jacq. See Jaquet in B. E. C., 517, 1927; *A. heteropoda* Bus., J. of B., 13, 1929; *A. firma* Bus.
- P. 88, n. 2. *Pimpinella Saxifraga* L., var. *ovata* Sprengel, Druce in B. E. C., 617, 1928. Pl. more robust, ls. larger, lfts. more ovate.
- P. 90, n. 6. *Ceanothe Lachenalii* Gmel., var. *minima* Rouy & Camus, B. E. C., 306, 1927. Stems almost absent, ls. in rosettes, umbel 5-8 rays, invol. and involucels almost absent. Pl. small, 10-15 cm. Shore of brackish water, Wexford, Cork, Anglesey.
- P. 102, n. 1. *Solidago Virgaurea* L., add var. *interruptus* Druce in B. E. C., 307, 1927. Inflorescence narrow much interrupted flowering spikes, of few (2-3) rarely 10 flowers, sometimes 12 inches long.

- P. 110, n. 3. *Senecio erraticus* Bert., var. *intermedius* Druce in B. E. C., 308, 1927. Intermediate (1) between *aquaticus* and (2) *erraticus*. More spreading than (1), fls. smaller and more numerous.
- P. 119, Gen. XLIII. *Taraxacum*; descriptions of numerous micro-species are to be found in the yearly Reports of the B. E. C., 1925 to 1929.
- P. 136, n. 1. Insert *Myosotis brevidens* C. E. Salmon, J. of B., 294, 1926. Smaller calyces and shorter fruiting pedicels than *repens* or *cæspitosa*, ls. shorter and blunter, calyx segm. longer, fls. larger than *cæspitosa*. Its appressed pubescens, longer pedicels and calyx segm. separate it from *repens*. From *palustris* it is known by its longer calyx segm., shorter styles and smaller fls. N. England.
- P. 142, n. 6. *Linaria minor* Desf., add var. *prætermissa* C. & G., B. E. C., 312, 1927. Pl. glabrous.
- P. 144, n. 3. *Veronica Chamædrys* L., add var. *lamifolia* Beck. Ls. much larger, with stalks 7-8 mm. See J. of B., 327, 1926.
- P. 144, n. 7. *Veronica Anagallis-aquatica* L., var. *divaricata* (Krösche) C. E. Britton, B. E. C., 548, 1927. Mature caps. more or less widely spreading oblique, or divaricate, caps. often subacute.  
 Var. *ambigua* (Krösche) C. E. Brit. Pedicles of the ripened caps. more or less oblique, scarcely curved, fruiting rac. somewhat lax, caps. obt. or subacute.
- P. 144, n. 14. *Veronica Tournefortii* Gmel., add var. *Aschersoniana* Lehm. Ls. simply and sharply serrate, sep. ob. lanc., lower cor. lobe paler, or even whitish, than the others.  
 Var. *Kochiana* (Godr.). Stems small, slender; ped. long filiform; ls. small, serrations shallow.  
 Var. *Corrensiana* (Lehm.). Ls. incised, obtusely serrate, serratures again toothed or notched, sep. obl. lanc., suddenly contracted towards the apex. Corolla wholly blue.
- P. 144, n. 15. *Veronica agrestis* L., add var. *Garkiana* Fourn. Keel and upper part of caps. only, covered with erect glandular hairs, under surface glab. or subglabr.  
 Var. *versicolor* Math. Sep. obl. obtuse (the type has tapering sep.).  
 Var. *Boræana* Fourn. Entire surface covered with erect glandular and curled eglandular hairs.  
 Var. *micrantha* Drab. Fls. minute, pale coloured.
- P. 144, n. 16. *Veronica didyma* Ten., var. *Thellungiana* (Lehm). Ls. deeply dentate with rounded teeth, and sinuses, posterior corolla lobe folded, margin not reflexed. This is the common English form.
- P. 150. *Mentha*. For full accounts of *Mentha*, see J. Fraser in B. E. C., 613, 1924; 213, 1926, *Menthæ Britannicæ*, with several new British forms and hybrids; and B. E. C., 809, 1928.
- P. 150, n. 3. *Mentha spicata* L., add var. *ciliata* Druce in B. E. C., 315, 1927.  
 For *Thymus* forms, see B. E. C., 167, 1926; 300, 1927.
- P. 154, n. 12.  
*Thymus carniolicus* Borbas., B. E. C., 167, 1926, like *glaber* but is villously hairy.  
*Thymus pseudo-lanuginosus* Ronn. l.c., like *Serpyllum*, differing from *britannicus* in the dense grey villosity of all its parts.



- P. 154, n. 1. *Scutellaria galericulata* L., *add* var. *pubescens* Benth. Fls. very pubescent, ls. underside canescent with shaggy hairs; fls. pale blue, conspicuous.  
*Insert* *Scutellaria Columnæ* All., alien S. Eur. Pl. erect; ls. hairy, crenate; fls. long, 20–28 mm. in terminal elongate lateral spike. Naturalised in Somerset.
- P. 156, n. 7. *Stachys officinalis* Fr., *add* var. *hirta* (Leysser) Rouy. Calyx covered with bristly hairs. Cornwall and Glamorgan; see B. E. C., 315, 1927.
- P. 62, n. 10. *Chenopodium glaucum* L., *add* var. *Microphylloides* Druce in B. E. C., 636, 1928. Ls. small, narrow.
- P. 166, n. 16. *Add* *Polygonum polystachyum* Wallich. Alien India. Plant tall, up to 4 m.; ls. broadly lanc., tapering to a long point, entire; inflorescence large up to 15 cm. of spreading branches covered with numerous snowy-white fls. Nat. as at Woody Bay, and along Lynton railway, etc., N. Devon.
- P. 172, n. 1. *Mercurialis perennis* L., *add* var. *Salisburyana* Muk. Ls. darker green, more deeply toothed.
- P. 174. *Urtica urens* L., var. *parvifolia* Druce in B. E. C. Leaf blades 22 mm.  $\times$  6.5 mm., deeply and acutely toothed on l. stalks 6 mm. long.
- P. 176, n. 1. *Alnus viridis* DC. Alien Eur. Male fl. autumnal, female vernal; hairs on leaves mostly confined to the nerves, Druce in B. E. C., 638, 1928.
- P. 178, n. 1. *Salix alba* L., *add* var. *stenophyllus* Fraser, ls. narrower.
- P. 180, n. 3. *Populus tremula* L., *add* var. *Brownii* Druce in B. E. C., 36, 1926. Ls. 17–22 mm. long  $\times$  12–20 mm. broad, glabrous.
- P. 184, n. 3. *Spiranthes Romanzoffiana* Cham., N. Ireland, *add* (*S. stricta* Rydb.) Var. b. *gemmipara* (Lindley). Pl. shorter, ls. broader, bracts shorter and not so tapering; fls. smaller, shorter, whiter, shorter and broader lip. S. Ireland.
- P. 186, n. 1. *Orchis purpurea* Huds., *add* var. *pseudo-militaris* Druce in B. E. C. 317, 1927. Fls. smaller, the labellum much more deeply cut into narrower segments than the type. Kent.
- P. 198, n. 1. *Juncus spinosus* Forsk., *add* var. *congestus* (Hall) Druce in B. E. C. 639, 1928. Inflorescence in compact head, i.e. fls. sessile or nearly so.
- P. 214, n. 2. *Eriophorum angustifolium* Roth., *add* var. *brevisetum* Druce in B. E. C., 789, 1925. Pl. robust, spikelets more or less stalked, bristles very short, 10–15 mm. Differs from *triquetrum*, which has stalked spikelets.
- P. 242, n. 3. *Glyceria distans* Wahl., *add* var. *retroflexa* Curtis, Fl. Lond. VI., t. 1 (179), upper glume broad subtruncate; lower broad, 0.7 mm.–1 mm.; close flowered; in the type, the upper glume is narrow acute, lower narrower and longer, 1–2 mm.; lax flowered. The species and its allies are put by some botanists under the genus *Puccinella*. See J. of B., 243, 1929.
- P. 246, n. 1. *Festuca sulcata* Hackel. Pl. stiff, rigid; foliage glaucescent; leaves short, flat, panicle close; spikelets large, awned. Druce in B. E. C.  
*Festuca ovina* group is described by W. O. Howarth (Journ. Linn. Soc., 29, 1925). See B. E. C., 792, 1925. Here four of Hackel's varieties are raised to species.
1. *F. capillata* Lam. Fertile glumes not awned. Lamina capillary, 0.3–0.5 mm.



Var. *hirtula* Hack. All glumes covered with minute appressed hairs, 0.3–0.5 mm. Lower leaves with spreading minute hairs.

2. *F. ovina* L. Fertile glumes awned. Radical sheaths entire only at extreme base.

Var. *hispidula* Hack. Back of flowering glumes minutely hispid, margins ciliate.

Var. *firmula* Hack. Fertile glumes 4–5 mm. with scabrous or hispidulous back. Leaves somewhat firm.

3. *F. supina* Schur. Leaf sheaths entire in lower  $\frac{1}{3}$  part. Panicles 2–4 cm. long.

4. *F. longifolia* Thuill. (*duriuscula* auct., not of L.). Lamina subjuncaceous or juncaceous, smooth, 0.7–0.1 mm. diameter.

Var. *trachyphylla* (Hack.). Lamina rough, especially about the tip. Doubtfully native.

5. *F. glauca* Lam. Culm 20–40 cm., angular (rarely rounded) above and usually smooth. Leaves smooth, more or less pruinose. Glumes more or less pruinose. Spikelet 5–8 mm. Rachis more or less straight. Cultivated.

Var. *cæsia* (Sm.). Spikelets 6–7 mm; rachis wavy. Somerset; Bury St. Edmunds, Suffolk; Banks of Avon, Gloucester; Leicester.

- 1, 2 and 3 are narrow-leaved forms. In 1 the transverse section of the lamina is rounded. The subepidermal sclerenchyma is continuous and there are 5 vascular bundles. In 2 the lamina is more keeled, and there is discontinuous sclerenchyma and 5 vascular bundles. 3 is the same as 1 but with 7 vascular bundles. The leaf sheaths in 1 and 2 are split at base, in 3 entire in the lower  $\frac{1}{3}$  or  $\frac{1}{4}$  part.

The ligule auricle in 1 is prominent and prolonged slightly upwards; in 2 it is scarcely prominent, and in 3 it is finely or coarsely ciliate.

The panicle in 1 is narrow, the spikelets compact and small, the glumes at most sharp pointed; in 2 it is more open, the spikelets are larger, and the glumes distinctly awned, 1 mm. or more long.

P. 250, n. 3. *Agropyron repens* Beauv. add var. *cæsium* Beck. Leaf-sheaths hairy.

P. 254, n. 7. To *Equisetum hyemale* L. add *Equisetum occidentale* (Hy.) Rouy, B. E. C., 1929. Differs from *hyemale* by its flexible and taller stem, which is curved towards the top, and tapers more gradually, by the internodes being nearly uniform in width—i.e. not bulging in the centre of the internode, and by the bright yellowish- (not greyish-) green colour. Surrey; possibly introduced.

P. 262, n. 1. Under *Botrychium Lunaria* Sw. add

2. *Botrychium matricariæ* Sprengel. (*B. rutaceum* Sw.) Druce, B. E. C., 212, 1927, t. ii. Differs from type in the fertile frond, being longly pedunculate 3–4 pinnatisect, longer than the barren frond; sterile frond rising from near the stem-base, broadly triangular. Kincardine.



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| Adoxa . . . . .                       | 96   | 4    | 197  | Apera . . . . .               | 234  | 11   | 43   |
| Ægopodium . . . . .                   | 88   | 4    | 108  | Apinella . . . . .            | 87   | 4    | 107  |
| Æthusa . . . . .                      | 92   | 4    | 132  | Apium . . . . .               | 86   | 4    | 98   |
| Agrimonia . . . . .                   | 64   | 3    | 129  | Apocynaceæ . . . . .          | 130  | 6    | 61   |
| Agrimony . . . . .                    | 64   | 3    | 130  | Aquifoliaceæ . . . . .        | 46   | 2    | 218  |
| Agropyron . . . . .                   | 250  | 11   | 176  | Aquilegia . . . . .           | 6    | 1    | 59   |
| Agrostis . . . . .                    | 232  | 11   | 42   | Arabis . . . . .              | 14   | 1    | 162  |
| Aira . . . . .                        | 234  | 11   | 63   | Araceæ . . . . .              | 202  | 9    | 9    |
| Ajuga . . . . .                       | 158  | 7    | 77   | Araliaceæ . . . . .           | 94   | 4    | 180  |
| Alchemilla . . . . .                  | 64   | 3    | 136  | Arbutus . . . . .             | 124  | 6    | 28   |
| Alder . . . . .                       | 176  | 8    | 179  | Archangel . . . . .           | 158  | 7    | 77   |
| Alexanders . . . . .                  | 86   | 4    | 177  | Archangelica . . . . .        | 92   | 4    | 146  |
| Alisma . . . . .                      | 204  | 9    | 69   | Arctium . . . . .             | 110  | 5    | 22   |
| Alismaceæ . . . . .                   | 204  | 9    | 64   | Arctostaphylos . . . . .      | 124  | 6    | 26   |
| Alkanet . . . . .                     | 134  | 7    | 110  | Arenaria . . . . .            | 34   | 2    | 100  |
| Allium . . . . .                      | 194  | 9    | 203  | Aristolochia . . . . .        | 170  | 8    | 91   |
| <i>Allosorus</i> . . . . .            | 254  | 12   | 44   | Aristolochiaceæ . . . . .     | 170  | 8    | 89   |
| Allseed . . . . .                     | 42   | 2    | 133  | <i>Armeria</i> . . . . .      | 126  | 7    | 156  |
| Alnus . . . . .                       | 176  | 8    | 178  | Arnoseris . . . . .           | 114  | 5    | 126  |
| Alopecurus . . . . .                  | 230  | 11   | 22   | Arrhenatherum . . . . .       | 236  | 11   | 81   |
| Alsine, <i>see</i> Arenaria . . . . . | 34   |      |      | Arrow-grass . . . . .         | 206  | 9    | 65   |
| Althæa . . . . .                      | 40   | 2    | 162  | Arrow-head . . . . .          | 204  | 9    | 66   |
| Alyssum . . . . .                     | 16   | 1    | 195  | Artemisia . . . . .           | 108  | 5    | 60   |
| Amarantaceæ . . . . .                 | 162  | 7    | 183  | <i>Arthrolobium</i> . . . . . | 56   | 3    | 78   |
| Amaranthus . . . . .                  | 162  | 7    | 184  | Arum . . . . .                | 202  | 9    | 12   |
| Amaryllidaceæ . . . . .               | 190  | 9    | 156  | <i>Arundo</i> . . . . .       | 238  | 11   | 53   |
| Amentaceæ . . . . .                   | 176  |      |      | Asarabacca . . . . .          | 170  | 8    | 90   |
| Ammophila . . . . .                   | 234  | 11   | 51   | Asarum . . . . .              | 170  | 8    | 90   |

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| Asparagus . . . . .         | 192     | 9    | 182  | Bird's-nest . . . . .                | 126   | 6    | 54   |
| Aspen . . . . .             | 180     | 8    | 197  | Birth-wort . . . . .                 | 170   | 8    | 92   |
| Asperugo . . . . .          | 136     | 7    | 120  | Bistort . . . . .                    | 166   | 8    | 70   |
| Asperula . . . . .          | 98      | 4    | 227  | Bitter-cress . . . . .               | 14    | 1    | 158  |
| <i>Aspidium</i> . . . . .   | 257-259 |      |      | Bitter-sweet . . . . .               | 138   | 6    | 96   |
| Asplenium . . . . .         | 256     | 12   | 117  | Bitter-vetch . . . . .               | 58-60 | 3    | 110  |
| Aster . . . . .             | 102     | 5    | 110  | Blackberry . . . . .                 | 62    | 3    | 163  |
| Asteraceæ . . . . .         | 102     |      |      | Black Salt-wort . . . . .            | 128   | 7    | 154  |
| Astragalus . . . . .        | 56      | 3    | 73   | Blackstonia . . . . .                | 130   | 6    | 71   |
| Astrantia . . . . .         | 84      | 4    | 91   | Blackthorn . . . . .                 | 60    | 3    | 115  |
| Athyrium . . . . .          | 256     | 12   | 108  | Bladder-fern . . . . .               | 258   | 12   | 101  |
| Atriplex . . . . .          | 164     | 8    | 26   | Bladder-seed . . . . .               | 86    | 4    | 175  |
| Atropa . . . . .            | 140     | 6    | 99   | Bladder-wort . . . . .               | 148   | 7    | 127  |
| Avena . . . . .             | 236     | 11   | 72   | Blechnum . . . . .                   | 254   | 12   | 143  |
| Avens . . . . .             | 62      | 3    | 198  | Blinks . . . . .                     | 38    | 2    | 137  |
| Awl-wort . . . . .          | 18      | 1    | 201  | Blue-bell . . . . .                  | 196   | 9    | 200  |
| <i>Azalea</i> . . . . .     | 124     | 6    | 32   | Blue-bottle . . . . .                | 130   | 5    | 34   |
| Azolla . . . . .            | 265     |      |      | <i>Blysmus</i> . . . . .             | 214   | 10   | 48   |
| Bald-money . . . . .        | 92      | 4    | 141  | Bog Asphodel . . . . .               | 196   | 9    | 222  |
| Ballota . . . . .           | 158     | 7    | 51   | Bog Myrtle . . . . .                 | 174   | 8    | 190  |
| Balm . . . . .              | 154     | 7    | 38   | Bog Orchis . . . . .                 | 182   | 9    | 135  |
| Baneberry . . . . .         | 8       | 1    | 67   | Bog-rush . . . . .                   | 214   | 10   | 43   |
| Barbarea . . . . .          | 14      | 1    | 170  | Borage . . . . .                     | 134   | 7    | 13   |
| Barberry . . . . .          | 8       | 1    | 72   | Boraginaceæ . . . . .                | 134   | 7    | 87   |
| <i>Barkhausia</i> . . . . . | 117     | 5    | 157  | Borago . . . . .                     | 134   | 7    | 112  |
| Barley . . . . .            | 250     | 11   | 193  | Boretta, <i>see</i> Dabœcia. . . . . | 125   | 6    | 33   |
| Bartsia . . . . .           | 146     | 6    | 173  | Botrychium . . . . .                 | 262   | 12   | 24   |
| Basil Thyme . . . . .       | 154     | 7    | 32   | Box . . . . .                        | 172   | 8    | 95   |
| Bastard Alkanet . . . . .   | 134     | 7    | 96   | Brachypodium . . . . .               | 248   | 11   | 173  |
| Bastard Balm . . . . .      | 156     | 7    | 50   | Bracken . . . . .                    | 254   | 12   | 145  |
| Bastard Toad-flax . . . . . | 170     | 8    | 88   | Brassica . . . . .                   | 18    | 1    | 123  |
| Beak-rush . . . . .         | 214     | 11   | 45   | Bristle-fern . . . . .               | 260   | 12   | 33   |
| Beaked Parsley . . . . .    | 90      | 4    | 166  | Bristle-grass . . . . .              | 228   | 11   | 13   |
| Bearberry . . . . .         | 124     | 6    | 28   | Briza . . . . .                      | 240   | 11   | 130  |
| Beard-grass . . . . .       | 232     | 11   | 41   | Brome-grass . . . . .                | 246   | 11   | 154  |
| Bedstraw . . . . .          | 96      | 4    | 212  | Bromus . . . . .                     | 246   | 11   | 154  |
| Beech . . . . .             | 176     | 8    | 165  | Brook-lime . . . . .                 | 144   | 6    | 106  |
| Beech-fern . . . . .        | 260     | 12   | 50   | Brook-weed . . . . .                 | 130   | 7    | 157  |
| Bee Orchis . . . . .        | 188     | 9    | 111  | Broom . . . . .                      | 50    | 3    | 11   |
| Beet . . . . .              | 162     | 8    | 9    | Broom-rape . . . . .                 | 148   | 6    | 191  |
| Bell-flower . . . . .       | 120     | 6    | 8    | Bryanthus . . . . .                  | 124   | 6    | 30   |
| Bellis . . . . .            | 102     | 5    | 104  | Bryonia . . . . .                    | 84    | 4    | 35   |
| Bent-grass . . . . .        | 232     | 11   | 44   | Bryony . . . . .                     | 84    | 4    | 36   |
| Berberidaceæ . . . . .      | 8       | 1    | 70   | Buck-thorn . . . . .                 | 48    | 2    | 227  |
| Berberis . . . . .          | 8       | 1    | 71   | Buck-wheat . . . . .                 | 168   | 8    | 60   |
| Beta . . . . .              | 162     | 8    | 8    | Bugle . . . . .                      | 158   | 7    | 78   |
| Betony . . . . .            | 142     | 7    | 54   | Bugloss, Viper's . . . . .           | 138   | 7    | 89   |
| Betula . . . . .            | 176     | 8    | 181  | Bullace . . . . .                    | 60    | 3    | 117  |
| Bidens . . . . .            | 106     | 5    | 93   | Bulrush . . . . .                    | 212   | 10   | 63   |
| Bilberry . . . . .          | 122     | 6    | 25   | <i>Bunium</i> . . . . .              | 88    | 4    | 113  |
| Bindweed . . . . .          | 138     | 6    | 85   | Bupleurum . . . . .                  | 86    | 4    | 119  |
| Birch . . . . .             | 176     | 8    | 183  | Burdock . . . . .                    | 110   | 5    | 24   |
| Bird-cherry . . . . .       | 60      | 3    | 124  | Bur-marigold . . . . .               | 106   | 5    | 214  |

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| Bur-parsley . . . . .                     | 94   | *4   | *162 | Celandine . . . . .                                     | 10   | *1   | *100 |
| Bur-reed . . . . .                        | 202  | 9    | 6    | Celastraceæ . . . . .                                   | 46   | 2    | 223  |
| Burnet . . . . .                          | 66   | 3    | 143  | Celery . . . . .  | 86   | 4    | 99   |
| Burnet Saxifrage . . . . .                | 88   | 4    | 116  | Centaurea . . . . .                                     | 114  | 5    | 30   |
| Bursa, <i>see</i> Capsella . . . . .      | 20   |      |      | Centaurium . . . . .                                    | 130  | 6    | 64   |
| Butcher's-broom . . . . .                 | 192  | 9    | 185  | Centaury . . . . .                                      | 130  | 6    | 66   |
| Butomus . . . . .                         | 204  | 9    | 75   | <i>Centranthus</i> . . . . .                            | 101  | 4    | 233  |
| Butter-bur . . . . .                      | 108  | 5    | 120  | Centunculus . . . . .                                   | 130  | 7    | 153  |
| Buttercup . . . . .                       | 4    | 1    | 39   | Cephalanthera . . . . .                                 | 184  | 9    | 127  |
| Butterfly Orchis . . . . .                | 188  | 9    | 106  | Cerastium . . . . .                                     | 32   | 2    | 76   |
| Butter-wort . . . . .                     | 150  | 7    | 123  | Ceratophyllaceæ . . . . .                               | 182  |      |      |
| Buxus . . . . .                           | 172  | 8    | 94   | Ceratophyllum . . . . .                                 | 182  | 8    | 123  |
| Cabbage . . . . .                         | 13   | 1    | 130  | Cervicina . . . . .                                     | 120  | 6    | 18   |
| Cakile . . . . .                          | 22   | 1    | 117  | Ceterach . . . . .                                      | 260  | 12   | 139  |
| Calamagrostis . . . . .                   | 234  | 11   | 52   | Chærophyllum . . . . .                                  | 90   | 4    | 105  |
| Calamint . . . . .                        | 154  | 7    | 36   | Chaff-weed . . . . .                                    | 130  | 7    | 153  |
| <i>Calamintha</i> . . . . .               | 154  | 7    | 30   | Chamomile . . . . .                                     | 106  | 5    | 54   |
| Callitriche . . . . .                     | 80   | 8    | 118  | Charlock . . . . .                                      | 18   | 1    | 124  |
| Calluna . . . . .                         | 124  | 6    | 43   | Cheiranthus . . . . .                                   | 12   | 1    | 153  |
| Caltha . . . . .                          | 6    | 1    | 50   | Chelidonium . . . . .                                   | 10   | 1    | 99   |
| Calystegia . . . . .                      | 138  | 6    | 86   | Chenopodiaceæ . . . . .                                 | 162  | 8    | 1    |
| Camelina . . . . .                        | 18   | 1    | 198  | Chenopodium . . . . .                                   | 162  | 8    | 10   |
| Cammarum, <i>see</i> Eranthis . . . . .   | 6    |      |      | <i>Cherleria</i> . . . . .                              | 34   | 2    | 108  |
| Campanula . . . . .                       | 122  | 6    | 7    | Cherry . . . . .  | 60   | 3    | 120  |
| Campanulaceæ . . . . .                    | 120  | 6    | 1    | Chervil . . . . .                                       | 90   | 4    | 106  |
| Campion . . . . .                         | 30   | 2    | 57   | Chickweed . . . . .                                     | 32   | 2    | 95   |
| Canary-grass . . . . .                    | 230  | 11   | 21   | Chickweed winter-green . . . . .                        | 128  | 7    | 142  |
| Candy-tuft . . . . .                      | 22   | 1    | 208  | Chicory . . . . .                                       | 114  | 5    | 122  |
| Cannabis . . . . .                        | 174  | 8    | 131  | Chives . . . . .  | 194  | 9    | 216  |
| Capnoides, <i>see</i> Corydalis . . . . . | 10   |      |      | <i>Chlora</i> . . . . .                                 | 131  | 6    | 71   |
| Caprifoliaceæ . . . . .                   | 96   | 4    | 197  | Chrysanthemum . . . . .                                 | 106  | 5    | 39   |
| Capriola, <i>see</i> Cynodon . . . . .    | 238  |      |      | <i>Chrysocoma</i> . . . . .                             | 102  | 5    | 112  |
| Capsella . . . . .                        | 20   | 1    | 211  | Chrysosplenium . . . . .                                | 76   | 4    | 84   |
| Cardamine . . . . .                       | 14   | 1    | 156  | Cicely . . . . .  | 88   | 4    | 170  |
| Carduus . . . . .                         | 112  | 5    | 5    | Cicendia . . . . .                                      | 132  | 6    | 69   |
| Carex . . . . .                           | 216  | 10   | 77   | Cichorium . . . . .                                     | 114  | 5    | 122  |
| Carlina . . . . .                         | 110  | 5    | 21   | Cicuta . . . . .  | 86   | 4    | 96   |
| Carline Thistle . . . . .                 | 110  | 5    | 22   | Cinquefoil . . . . .                                    | 62   | 3    | 145  |
| Carnation . . . . .                       | 28   | 2    | 49   | Circæa . . . . .  | 84   | 4    | 27   |
| Carpinus . . . . .                        | 176  | 8    | 177  | Cirsium . . . . .                                       | 112  | 5    | 5    |
| Carraway . . . . .                        | 86   | 4    | 110  | Cistaceæ . . . . .                                      | 24   | 11   | 6    |
| Carrot . . . . .                          | 94   | 4    | 157  | Cladium . . . . .                                       | 216  | 10   | 43   |
| Carum . . . . .                           | 86   | 4    | 109  | Clary . . . . .   | 154  | 7    | 43   |
| Caryophyllaceæ . . . . .                  | 28   | 2    | 43   | Claytonia . . . . .                                     | 38   | 2    | 137  |
| Castalia . . . . .                        | 8    | 1    | 75   | Cleavers . . . . .                                      | 98   | 4    | 226  |
| Castanea . . . . .                        | 176  | 9    | 159  | Clematis . . . . .                                      | 2    | 1    | 2    |
| Catabrosa . . . . .                       | 238  | 11   | 94   | <i>Clinopodium</i> , <i>see</i> Sa-<br>tureja . . . . . | 154  |      |      |
| Catch-fly . . . . .                       | 30   | 2    | 59   | Cloudberry . . . . .                                    | 62   | 3    | 158  |
| Cat-mint . . . . .                        | 154  | 7    | 39   | Clover . . . . .  | 52   | 3    | 39   |
| Cat's-ear . . . . .                       | 116  | 5    | 128  | Club-moss . . . . .                                     | 264  | 12   | 12   |
| Cat's-foot . . . . .                      | 104  | 5    | 77   | Club-rush . . . . .                                     | 212  | 10   | 53   |
| Cat's-tail . . . . .                      | 232  | 9    | 3    | <i>Cnicus</i> ; <i>see</i> Cirsium . . . . .            | 112  |      |      |
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| Colchicum . . . . .         | 196  | 9    | 224  | Cruciferae . . . . .           | 12   | 1    | 11   |
| Colt's-foot . . . . .       | 108  | 5    | 116  | Cryptogamme . . . . .          | 254  | 12   | 4    |
| Columbine . . . . .         | 6    | 1    | 61   | Cuckoo-flower . . . . .        | 14   | 2    | 7    |
| <i>Comarum</i> . . . . .    | 65   | 3    | 153  | Cuckoo-pint . . . . .          | 202  | 9    | 1    |
| Comfrey . . . . .           | 134  | 7    | 116  | Cucubalus . . . . .            | 30   | 2    | 5    |
| Compositæ . . . . .         | 102  | 5    | 1    | Cucurbitaceæ . . . . .         | 84   | 4    | 3    |
| Coniferæ . . . . .          | 253  | 8    | 263  | Cudweed . . . . .              | 102  | 5    | 6    |
| Conium . . . . .            | 86   | 4    | 173  | <i>Cupuliferae</i> . . . . .   | 176  | 8    | 14   |
| Conopodium . . . . .        | 88   | 1    | 133  | Currant . . . . .              | 76   | 4    | 4    |
| Conringia . . . . .         | 18   | 1    | 148  | Cuscuta . . . . .              | 138  | 6    | 8    |
| Convallaria . . . . .       | 194  | 9    | 180  | Cut-grass . . . . .            | 230  | 11   |      |
| Convolvulaceæ . . . . .     | 138  | 6    | 84   | Cyclamen . . . . .             | 128  | 7    | 13   |
| Convolvulus . . . . .       | 138  | 6    | 84   | Cynodon . . . . .              | 238  | 11   |      |
| Corallorhiza . . . . .      | 184  | 9    | 132  | Cynoglossum . . . . .          | 134  | 7    | 11   |
| Coral-root . . . . .        | 184  | 9    | 132  | Cynosurus . . . . .            | 238  | 11   | 13   |
| Coral-wort . . . . .        | 14   | 1    | 57   | Cyperaceæ . . . . .            | 212  | 10   | 4    |
| Cord-grass . . . . .        | 228  | 11   | 5    | Cyperus . . . . .              | 212  | 10   | 4    |
| Coriander . . . . .         | 94   | 4    | 179  | Cyphel . . . . .               | 34   | 2    | 10   |
| Coriandrum . . . . .        | 94   | 4    | 178  | Cypripedium . . . . .          | 188  | 9    | 13   |
| Corn-cockle . . . . .       | 30   | 2    | 74   | Cystopteris . . . . .          | 258  | 12   | 10   |
| Corn Marigold . . . . .     | 106  | 5    | 40   | Cytisus . . . . .              | 50   | 3    | 1    |
| Corn-salad . . . . .        | 100  | 4    | 240  |                                |      |      |      |
| Cornaceæ . . . . .          | 94   | 4    | 185  | Dabœcia . . . . .              | 124  | 6    | 3    |
| Cornel . . . . .            | 94   | 4    | 186  | Dactylis . . . . .             | 240  | 11   | 13   |
| Cornus . . . . .            | 94   | 4    | 185  | Daffodil . . . . .             | 190  | 9    | 15   |
| Coronilla . . . . .         | 56   | 3    | 113  | Daisy . . . . .                | 102  | 5    | 10   |
| Coronopus . . . . .         | 20   | 1    | 220  | Damasonium . . . . .           | 204  | 9    | 7    |
| Corrigiola . . . . .        | 160  | 7    | 176  | Dame's Violet . . . . .        | 16   | 1    | 15   |
| Corydalis . . . . .         | 10   | 1    | 101  | Danaa . . . . .                | 86   | 4    | 17   |
| Corylus . . . . .           | 176  | 8    | 170  | Dandelion . . . . .            | 118  | 5    | 14   |
| Corynephorus . . . . .      | 234  | 11   | 62   | Dane-wort . . . . .            | 96   | 4    | 20   |
| Cotoneaster . . . . .       | 74   | 3    | 233  | <i>Danthonia</i> . . . . .     | 239  |      |      |
| Cotton-grass . . . . .      | 214  | 10   | 74   | Daphne . . . . .               | 170  | 8    | 8    |
| Cotton-thistle . . . . .    | 112  | 5    | 2    | Darnel . . . . .               | 248  | 11   | 18   |
| Cotula . . . . .            | 108  |      |      | Datura . . . . .               | 140  | 6    | 10   |
| Cotyledon . . . . .         | 78   | 4    | 61   | Daucus . . . . .               | 94   | 4    | 15   |
| Couch-grass . . . . .       | 250  | 11   | 178  | Deadly Nightshade . . . . .    | 140  | 6    | 10   |
| Cowbane . . . . .           | 86   | 4    | 97   | Dead-nettle . . . . .          | 158  | 7    | 7    |
| Cowberry . . . . .          | 122  | 6    | 20   | Delphinium . . . . .           | 8    | 1    | 6    |
| Cow-parsnip . . . . .       | 92   | 4    | 154  | <i>Dentaria</i> . . . . .      | 15   | 1    | 15   |
| Cowslip . . . . .           | 128  | 7    | 134  | Deschampsia . . . . .          | 236  | 11   | 6    |
| Cow-wheat . . . . .         | 146  | 6    | 186  | Desmazeria . . . . .           | 240  | 12   | 11   |
| Crab-tree . . . . .         | 72   | 3    | 255  | Devil's-bit Scabious . . . . . | 102  | 4    | 25   |
| Crambe . . . . .            | 22   | 1    | 119  | Deyeuxia . . . . .             | 234  | 12   | 5    |
| Cranberry . . . . .         | 122  | 6    | 21   | Dianthus . . . . .             | 28   | 2    | 4    |
| Crane's-bill . . . . .      | 44   | 2    | 192  | Digitalis . . . . .            | 142  | 6    | 12   |
| Crassulaceæ . . . . .       | 78   | 4    | 46   | <i>Digitaria</i> . . . . .     | 228  | 11   | 1    |
| Cratægus . . . . .          | 74   | 3    | 236  | Dioscoreaceæ . . . . .         | 192  | 9    | 16   |
| Crepis . . . . .            | 116  | 5    | 157  | Diotis . . . . .               | 106  | 5    | 5    |
| Crithmum . . . . .          | 90   | 4    | 142  | Diploxaxis . . . . .           | 20   | 1    | 13   |
| Crocus . . . . .            | 190  | 9    | 149  | Dipsacaceæ . . . . .           | 100  | 4    | 24   |
| Cross-wort . . . . .        | 98   | 4    | 213  | Dipsacus . . . . .             | 100  | 4    | 24   |
| Crowberry . . . . .         | 182  | 8    | 94   | Dock . . . . .                 | 168  | 8    | 4    |

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| Dodder . . . . .                    | 138  | *6   | *89  | Eryngium . . . . .         | 84   | *4   | *94  |
| Dog-rose . . . . .                  | 66   | 3    | 226  | Eryngo . . . . .           | 84   | 9    | 96   |
| Dog-violet . . . . .                | 24   | 2    | 21   | Erysimum . . . . .         | 18   | 1    | 147  |
| Dog-wood . . . . .                  | 94   | 4    | 187  | <i>Erythraea</i> . . . . . | 131  | 6    | 64   |
| Dog's-tail-grass . . . . .          | 238  | 11   | 134  | Eupatorium . . . . .       | 102  | 5    | 120  |
| Dog's-tooth-grass . . . . .         | 238  | 11   | 9    | Euphorbia . . . . .        | 172  | 8    | 98   |
| Dondia, <i>see</i> Suaeda . . . . . | 165  | 8    | 1    | Euphorbiaceæ . . . . .     | 172  | 8    | 94   |
| Doronicum . . . . .                 | 108  | 5    | 90   | Euphrasia . . . . .        | 144  | 6    | 170  |
| Draba . . . . .                     | 16   | 1    | 188  | Evening Primrose . . . . . | 84   | 4    | 24   |
| Drop-wort . . . . .                 | 62   | 4    | 125  | Everlasting Pea . . . . .  | 58   | 3    | 107  |
| Drosera . . . . .                   | 80   | 2    | 29   | Evonymus . . . . .         | 46   | 2    | 224  |
| Droseraceæ . . . . .                | 80   | 2    | 29   | Eye-bright . . . . .       | 144  | 6    | 171  |
| Dryas . . . . .                     | 62   | 3    | 201  |                            |      |      |      |
| Dryopteris . . . . .                | 258  | 12   | 52   | Fagopyrum . . . . .        | 168  | 8    | 59   |
| Duck-weed . . . . .                 | 204  | 9    | 17   | Fagus . . . . .            | 176  | 8    | 164  |
| Dyer's-green-weed . . . . .         | 48   | 3    | 8    | Falcaria . . . . .         | 88   |      |      |
| Dyer's-weed . . . . .               | 22   | 2    | 5    | Feather-foil . . . . .     | 128  | 7    | 130  |
| Dyer's-woad . . . . .               | 22   | 1    | 223  | Fennel . . . . .           | 90   | 4    | 134  |
|                                     |      |      |      | Fescue-grass . . . . .     | 244  | 11   | 137  |
| Earth-nut . . . . .                 | 88   | 4    | 114  | Festuca . . . . .          | 244  | 9    | 137  |
| Earth-nut-pea . . . . .             | 58   | 3    | 101  | Feverfew . . . . .         | 106  | 5    | 43   |
| Echinodorus . . . . .               | 204  | 9    | 71   | Fig-wort . . . . .         | 142  | 6    | 124  |
| Echium . . . . .                    | 138  | 7    | 88   | Filago . . . . .           | 102  | 5    | 67   |
| Elatinaceæ . . . . .                | 38   | 2    | 140  | <i>Filices</i> . . . . .   | 254  | 12   | 29   |
| Elatine . . . . .                   | 38   | 2    | 141  | Filmy-fern . . . . .       | 260  | 12   | 35   |
| Elder . . . . .                     | 96   | 4    | 200  | Finger-grass . . . . .     | 228  | 11   | 11   |
| Elæagnaceæ . . . . .                | 170  | 8    | 81   | Fir . . . . .              | 252  | 8    | 265  |
| Elecampane . . . . .                | 104  | 5    | 98   | Flag . . . . .             | 190  | 9    | 11   |
| Eleocharis . . . . .                | 212  | 10   | 50   | Flax . . . . .             | 42   | 2    | 185  |
| Elisma . . . . .                    | 204  | 9    | 73   | Flax-seed . . . . .        | 42   | 2    | 180  |
| Elm . . . . .                       | 174  | 8    | 138  | Flea-bane . . . . .        | 102  | 5    | 103  |
| Elodea . . . . .                    | 182  | 9    | 80   | Flix-weed . . . . .        | 16   | 1    | 145  |
| Elymus . . . . .                    | 250  | 11   | 190  | Flowering-rush . . . . .   | 204  | 9    | 76   |
| Empetraceæ . . . . .                | 182  | 8    | 92   | Fluellen . . . . .         | 142  | 6    | 135  |
| Empetrum . . . . .                  | 182  | 8    | 93   | Fly Orchis . . . . .       | 188  | 9    | 115  |
| Enchanter's Nightshade . . . . .    | 84   | 4    | 29   | Fœniculum . . . . .        | 90   | 4    | 133  |
| Epilobiaceæ . . . . .               | 82   |      |      | Fœnugreek . . . . .        | 50   | 3    | 25   |
| Epilobium . . . . .                 | 82   | 4    | 6    | Fool's Parsley . . . . .   | 92   | 4    | 133  |
| Epimedium . . . . .                 | 8    | 1    | 73   | Forget-me-not . . . . .    | 136  | 7    | 98   |
| <i>Epipactis</i> . . . . .          | 184  | 9    | 122  | Fox-glove . . . . .        | 142  | 6    | 127  |
| Epipogium . . . . .                 | 184  | 9    | 131  | Fox-tail-grass . . . . .   | 230  | 11   | 23   |
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| Eranthis . . . . .                  | 6    | 1    | 55   | Frankeniaceæ . . . . .     | 28   | 2    | 41   |
| Erica . . . . .                     | 124  | 6    | 35   | Fraxinus . . . . .         | 130  | 6    | 55   |
| Ericaceæ . . . . .                  | 124  | 6    | 19   | Fritillaria . . . . .      | 196  | 9    | 188  |
| Erigeron . . . . .                  | 102  | 5    | 107  | Fritillary . . . . .       | 196  | 9    | 189  |
| Erinus . . . . .                    | 142  |      |      | Frog-bit . . . . .         | 182  | 9    | 79   |
| Eriocaulaceæ . . . . .              | 212  |      |      | Frog Orchis . . . . .      | 188  | 9    | 105  |
| Eriocaulon . . . . .                | 212  | 10   | 2    | Fumaria . . . . .          | 10   | 1    | 104  |
| Eriophorum . . . . .                | 214  | 10   | 70   | Fumariaceæ . . . . .       | 10   | 1    | 100  |
| Erodium . . . . .                   | 44   | 2    | 205  | Fumitory . . . . .         | 10   | 1    | 111  |
| Erophila . . . . .                  | 16   | 1    | 89   | Furze . . . . .            | 48   | 3    | 5    |
| <i>Erucastrum</i> . . . . .         | 18   | 1    | 129  |                            |      |      |      |

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| Galingale . . . . .          | 212  | 10   | 42   | Hare's-ear . . . . .                             | 18   | 4    | 12   |
| Galinsoga . . . . .          | 106  | 5    | 95   | Hare's-tail grass . . . . .                      | 234  | 11   | 3    |
| Galium . . . . .             | 96   | 4    | 212  | Hart's tongue . . . . .                          | 254  | 12   | 14   |
| Garlic . . . . .             | 194  | 9    | 211  | Hawk-bit . . . . .                               | 118  | 5    | 13   |
| Gastridium . . . . .         | 234  | 11   | 37   | Hawk's-beard . . . . .                           | 116  | 5    | 15   |
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| Gentian . . . . .            | 132  | 6    | 78   | Hawthorn . . . . .                               | 74   | 3    | 23   |
| Gentiana . . . . .           | 132  | 6    | 72   | Hazel . . . . .                                  | 176  | 8    | 17   |
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| Geraniaceæ . . . . .         | 44   | 2    | 189  | Heath . . . . .                                  | 124  | 6    | 3    |
| Geranium . . . . .           | 44   | 2    | 100  | Heath-grass . . . . .                            | 238  | 11   | 8    |
| Germander . . . . .          | 144  | 7    | 82   | Hedera . . . . .                                 | 94   | 4    | 18   |
| Geum . . . . .               | 62   | 3    | 197  | Hedge-mustard . . . . .                          | 16   | 1    | 14   |
| Gipsy-wort . . . . .         | 152  | 7    | 2    | Hedge-parsley . . . . .                          | 94   | 4    | 16   |
| Gladdon . . . . .            | 190  | 9    | 143  | Helianthemum . . . . .                           | 24   | 2    |      |
| Gladiolus . . . . .          | 190  | 9    | 141  | Hellebore . . . . .                              | 6    | 1    | 5    |
| Glass-wort . . . . .         | 164  | 8    | 6    | Helleborine . . . . .                            | 184  | 9    | 12   |
| Glaucium . . . . .           | 10   | 1    | 96   | Helleborus . . . . .                             | 6    | 1    | 5    |
| Glaux . . . . .              | 128  | 7    | 154  | <i>Helminthia</i> , see <i>Picris</i> . . . . .  | 114  | 5    | 13   |
| Globe-flower . . . . .       | 6    | 1    | 54   | <i>Helosciadium</i> , see <i>Apium</i> . . . . . | 86   | 4    | 10   |
| Glyceria . . . . .           | 242  | 11   | 95   | Hemlock . . . . .                                | 86   | 4    | 17   |
| Gnaphalium . . . . .         | 104  | 5    | 72   | Hemp Agrimony . . . . .                          | 102  | 5    | 12   |
| Goat's-beard . . . . .       | 120  | 5    | 140  | Hemp-nettle . . . . .                            | 156  | 7    | 6    |
| Golden-rod . . . . .         | 102  | 5    | 114  | Henbane . . . . .                                | 140  | 6    | 10   |
| Golden Samphire . . . . .    | 104  | 5    | 101  | Henbit . . . . .                                 | 158  | 7    | 7    |
| Golden Saxifrage . . . . .   | 76   | 4    | 84   | Heracleum . . . . .                              | 92   | 4    | 15   |
| Goldilocks . . . . .         | 4    | 1    | 37   | Herb Christopher . . . . .                       | 8    | 1    | 6    |
| Gold-of-pleasure . . . . .   | 18   | 1    | 200  | Herb Paris . . . . .                             | 198  | 9    | 17   |
| Goodyera . . . . .           | 184  | 9    | 118  | Herminium . . . . .                              | 188  | 9    | 10   |
| Gooseberry . . . . .         | 76   | 4    | 39   | Hermodactylus . . . . .                          | 190  | 9    | 14   |
| Goose-foot . . . . .         | 162  | 8    | 11   | Herniaria . . . . .                              | 160  | 7    | 17   |
| Goose-grass . . . . .        | 98   | 4    | 226  | Hesperis . . . . .                               | 16   | 1    | 15   |
| Gorse . . . . .              | 48   | 3    | 5    | Hieracium . . . . .                              | 116  | 5    | 16   |
| Gout-weed . . . . .          | 88   | 4    | 109  | Hierochloe . . . . .                             | 230  | 11   | 16   |
| Graminaceæ . . . . .         | 228  | 11   | 1    | Hippocrepis . . . . .                            | 56   | 3    | 7    |
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| Grass-of-Parnassus . . . . . | 76   | 4    | 86   | Hippuris . . . . .                               | 80   | 4    | 3    |
| Grass-vetch . . . . .        | 58   | 3    | 102  | Hog's-fennel . . . . .                           | 92   | 4    | 14   |
| Grass-wrack . . . . .        | 210  | 9    | 61   | Hog-weed . . . . .                               | 92   | 4    | 15   |
| Green-weed . . . . .         | 48   | 3    | 9    | Holcus . . . . .                                 | 236  | 11   | 8    |
| Gromwell . . . . .           | 136  | 7    | 96   | Holly . . . . .                                  | 46   | 2    | 22   |
| Ground-ivy . . . . .         | 154  | 7    | 41   | Holly-fern . . . . .                             | 258  | 12   | 9    |
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| Groundsel . . . . .          | 110  | 5    | 80   | Holy-grass . . . . .                             | 230  | 11   | 16   |
| Guelder-rose . . . . .       | 96   | 4    | 203  | Homalocenchrus, see                              |      |      |      |
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| Lolium . . . . .             | 248  | 11   | 184  | May Lily . . . . .         | 196  | 9    | 175  |
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| London Pride . . . . .       | 76   | 4    | 71   | Meadow-grass . . . . .     | 240  | 11   | 102  |
| London Rocket . . . . .      | 16   | 1    | 146  | Meadow Rue . . . . .       | 2    | 1    | 5    |
| Lonicera . . . . .           | 96   | 4    | 205  | Meadow Saffron . . . . .   | 196  | 9    | 225  |
| Loosestrife . . . . .        | 82   | 7    | 115  | Meadow Saxifrage . . . . . | 76   | 4    | 137  |
| Loranthaceæ . . . . .        | 170  | 4    | 188  | Meadow-sweet . . . . .     | 60   | 3    | 127  |
| Lords and Ladies . . . . .   | 202  | 9    | 13   | Meconopsis . . . . .       | 10   | 1    | 94   |
| Lotus . . . . .              | 54   | 3    | 64   | Medicago . . . . .         | 50   | 3    | 21   |
| Louse-wort . . . . .         | 146  | 6    | 179  | Medick . . . . .           | 50   | 3    | 25   |
| Lovage . . . . .             | 92   | 4    | 189  | Medlar . . . . .           | 74   | 3    | 235  |
| Lucerne . . . . .            | 50   | 3    | 22   | Melampyrum . . . . .       | 146  | 6    | 182  |
| Ludvigia . . . . .           | 82   | 4    | 27   | Melica . . . . .           | 240  | 11   | 92   |
| Lupinus . . . . .            | 48   |      |      | Melic-grass . . . . .      | 240  | 11   | 91   |
| Luzula . . . . .             | 200  | 10   | 3    | Melilot . . . . .          | 50   | 3    | 30   |
| Lychnis . . . . .            | 30   | 2    | 70   | Melilotus . . . . .        | 50   | 3    | 29   |
| Lycium . . . . .             | 138  | 6    | 98   | Melissa . . . . .          | 154  | 7    | 37   |
| Lycopodiaceæ . . . . .       | 264  | 12   | 11   | Melittis . . . . .         | 156  | 7    | 49   |
| Lycopodium . . . . .         | 264  | 12   | 12   | Mentha . . . . .           | 150  | 7    | 3    |
| Lycopsis . . . . .           | 134  | 7    | 109  | Menyanthes . . . . .       | 132  | 6    | 78   |
| Lycopus . . . . .            | 152  | 7    | 1    | <i>Menziesia</i> . . . . . | 124  | 6    | 33   |
| Lyme-grass . . . . .         | 250  | 11   | 191  | Mercurialis . . . . .      | 172  | 8    | 113  |
| Lysimachia . . . . .         | 128  | 7    | 143  | Mercury . . . . .          | 172  | 8    | 13   |
| Lythraceæ . . . . .          | 82   | 4    | 1    | Mertensia . . . . .        | 136  | 7    | 93   |
| Lythrum . . . . .            | 82   | 4    | 1    | <i>Mespilus, see</i> Pyrus | 74   | 3    | 234  |
| Madder . . . . .             | 96   | 4    | 212  | Meum . . . . .             | 92   | 4    | 140  |
| Mad-wort . . . . .           | 136  | 7    | 120  | Mezereum . . . . .         | 170  | 8    | 85   |
| Maianthemum . . . . .        | 194  | 9    | 175  | Mibora . . . . .           | 232  | 11   | 7    |
| Maiden-hair . . . . .        | 254  |      |      | Michaelmas Daisy . . . . . | 102  | 5    | 110  |
| Malaxis . . . . .            | 182  | 9    | 135  | Microcala . . . . .        | 130  | 6    | 69   |
| Male-fern . . . . .          | 258  | 12   | 57   | Mignonette . . . . .       | 22   | 2    | 3    |
| Mallow . . . . .             | 40   | 2    | 167  | Milfoil . . . . .          | 80   | 4    | 32   |
| Malva . . . . .              | 42   | 2    | 165  | Milium . . . . .           | 230  | 11   | 60   |
| Malvaceæ . . . . .           | 40   | 2    | 161  | Milk-parsley . . . . .     | 92   | 4    | 147  |
| Man Orchis . . . . .         | 186  | 9    | 87   | Milk-thistle . . . . .     | 112  | 5    | 5    |
| Maple . . . . .              | 48   | 2    | 233  | Milk-vetch . . . . .       | 56   | 3    | 76   |
| Mare's tail . . . . .        | 80   | 4    | 34   | Milk-wort . . . . .        | 26   | 2    | 37   |
| Mariana, <i>see</i> Silybum  | 112  |      |      | Millet-grass . . . . .     | 230  | 11   | 61   |
| Marjoram . . . . .           | 152  | 7    | 30   | Mimulus . . . . .          | 142  | 6    | 145  |
| Marram . . . . .             | 234  | 11   | 52   | Mint . . . . .             | 150  | 7    | 3    |
| Marrubium . . . . .          | 156  | 7    | 50   | Mistletoe . . . . .        | 170  | 4    | 190  |
|                              |      |      |      | <i>Mænchia</i> . . . . .   | 32   | 2    | 77   |

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| Molinia . . . . .             | 238  | *11  | *89  | Oak . . . . .                   | 176  | *8   | *146 |
| Moneses . . . . .             | 126  | 6    | 51   | Oak-fern . . . . .              | 260  | 12   | 46   |
| Money-wort . . . . .          | 128  | 7    | 149  | Oat-grass . . . . .             | 236  | 11   | 72   |
| Monk's-hood . . . . .         | 8    | 1    | 65   | <i>Obione</i> . . . . .         | 164  | 8    | 36   |
| Monk's Rhubarb . . . . .      | 168  | 8    | 53   | <i>Œnanthe</i> . . . . .        | 90   | 4    | 123  |
| <i>Monotropa</i> . . . . .    | 126  | 6    | 52   | <i>Œnothera</i> . . . . .       | 84   | 4    | 23   |
| Monotropaceæ . . . . .        | 126  |      |      | Oleaceæ . . . . .               | 130  | 6    | 35   |
| Montia . . . . .              | 38   | 2    | 135  | Omphalodes . . . . .            | 134  |      |      |
| Moon-wort . . . . .           | 262  | 12   | 24   | Onagraceæ . . . . .             | 84   | 4    | 5    |
| Moor-grass . . . . .          | 238  | 11   | 35   | Onion . . . . .                 | 142  | 9    | 204  |
| Moschatel . . . . .           | 96   | 4    | 198  | Onobrychis . . . . .            | 56   | 3    | 80   |
| Moss Champion . . . . .       | 30   | 2    | 63   | Ononis . . . . .                | 50   | 3    | 14   |
| Mother-wort . . . . .         | 153  | 7    | 68   | Onopordon . . . . .             | 112  | 5    | 2    |
| Mountain Ash . . . . .        | 72   | 3    | 248  | Ophioglossaceæ . . . . .        | 262  |      |      |
| Mountain-fern . . . . .       | 253  | 2    | 54   | Ophioglossum . . . . .          | 260  | 12   | 19   |
| Mountain Sorrell . . . . .    | 168  | 8    | 57   | Ophrys . . . . .                | 186  | 9    | 110  |
| Mouse-ear Chickweed . . . . . | 32   | 2    | 76   | Orache . . . . .                | 164  | 8    | 27   |
| Mouse-tail . . . . .          | 2    | 1    | 15   | Orchidaceæ . . . . .            | 182  | 9    | 85   |
| Mud-rush . . . . .            | 214  | 10   | 37   | Orchis . . . . .                | 186  | 9    | 90   |
| Mud-wort . . . . .            | 142  | 6    | 147  | Origanum . . . . .              | 152  | 7    | 28   |
| Mug-wort . . . . .            | 103  | 4    | 214  | Ornithogalum . . . . .          | 196  | 9    | 194  |
| <i>Mulgedium</i> . . . . .    | 118  | 5    | 151  | Ornithopus . . . . .            | 56   | 3    | 77   |
| Mullein . . . . .             | 140  | 6    | 111  | Orobanchaceæ . . . . .          | 148  | 6    | 183  |
| Muscari . . . . .             | 194  | 9    | 201  | Orobanche . . . . .             | 148  | 6    | 190  |
| Musk Orchis . . . . .         | 188  | 9    | 110  | Orpine . . . . .                | 73   | 4    | 49   |
| Mustard . . . . .             | 18   | 1    | 124  | Osier . . . . .                 | 178  | 8    | 224  |
| Myosotis . . . . .            | 136  | 7    | 97   | Osmunda . . . . .               | 260  | 12   | 30   |
| Myosurus . . . . .            | 2    | 1    | 15   | Osmundaceæ . . . . .            | 260  |      |      |
| Myrica . . . . .              | 174  | 8    | 189  | Oxalis . . . . .                | 46   | 2    | 210  |
| Myricaceæ . . . . .           | 174  | 8    | 188  | Oxycoccus . . . . .             | 122  | 6    | 20   |
| Myriophyllum . . . . .        | 30   | 4    | 30   | Ox-eye . . . . .                | 106  | 5    | 42   |
| Myrrhis . . . . .             | 88   | 4    | 109  | Ox-lip . . . . .                | 123  | 7    | 137  |
|                               |      |      |      | Ox-tongue . . . . .             | 114  | 5    | 136  |
|                               |      |      |      | Oxyria . . . . .                | 168  | 8    | 57   |
|                               |      |      |      | Oxytropis . . . . .             | 56   | 3    | 70   |
| Naiadaceæ . . . . .           | 206  | 9    | 25   |                                 |      |      |      |
| Naias . . . . .               | 210  | 9    | 63   | Pæonia . . . . .                | 8    | 1    | 68   |
| Narcissus . . . . .           | 190  | 9    | 156  | Panic-grass . . . . .           | 223  | 11   | 12   |
| Nardus . . . . .              | 250  | 11   | 197  | Panicum . . . . .               | 228  | 11   | 12   |
| Narthecium . . . . .          | 196  | 9    | 221  | Pansy . . . . .                 | 26   | 2    | 25   |
| <i>Nasturtium</i> . . . . .   | 13   | 1    | 176  | Papaver . . . . .               | 10   | 1    | 81   |
| Navew . . . . .               | 14   | 1    | 134  | Papaveraceæ . . . . .           | 10   | 1    | 81   |
| Needle-whin . . . . .         | 32   | 3    | 8    | Parietaria . . . . .            | 174  | 8    | 125  |
| <i>Neotinea</i> . . . . .     | 188  | 9    | 108  | Paris . . . . .                 | 193  | 9    | 172  |
| Neottia . . . . .             | 184  | 6    | 121  | Parnassia . . . . .             | 76   | 4    | 85   |
| Nepeta . . . . .              | 154  | 7    | 38   | Parsley . . . . .               | 83   | 4    | 104  |
| Nettle . . . . .              | 174  | 8    | 128  | Parsley-fern . . . . .          | 254  | 12   | 44   |
| Nightshade . . . . .          | 138  | 6    | 100  | ParsleyPiert, <i>see</i> Alche- |      |      |      |
| Nipple-wort . . . . .         | 114  | 5    | 126  | milla arvensis . . . . .        | 64   | 3    | 137  |
| Nit-grass . . . . .           | 234  | 11   | 38   | Parsnip . . . . .               | 92   | 4    | 154  |
| Nonsuch . . . . .             | 50   | 3    | 25   | Pasque-flower . . . . .         | 2    | 1    | 11   |
| <i>Nuphar</i> . . . . .       | 8    | 1    | 78   | <i>Pastinaca</i> . . . . .      | 92   | 4    | 151  |
| Nymphæa . . . . .             | 8    | 1    | 78   | Pea, everlasting . . . . .      | 58   | 3    | 107  |
| Nymphæaceæ . . . . .          | 8    | 1    | 75   |                                 |      |      |      |
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| Pedicularis . . . . .                     | 146  | 6    | 178  | Pond-weed . . . . .            | 206  | 9    | 26   |
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| Penny-cress . . . . .                     | 20   | 1    | 202  | Poppy . . . . .                | 10   | 1    | 81   |
| Penny-royal . . . . .                     | 152  | 7    | 24   | Populus . . . . .              | 180  | 8    | 191  |
| Penny-wort . . . . .                      | 84   | 4    | 62   | Portulacææ . . . . .           | 38   | 2    | 135  |
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| Pepper Saxifrage . . . . .                | 92   | 4    | 139  | Potamogeton . . . . .          | 206  | 9    | 25   |
| Pepper-wort . . . . .                     | 20   | 1    | 213  | Potentilla . . . . .           | 62   | 3    | 141  |
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| Phalaris . . . . .                        | 230  | 11   | 20   | Prunella . . . . .             | 156  | 7    | 45   |
| Pheasant's-eye . . . . .                  | 2    | 1    | 14   | Prunus . . . . .               | 60   | 3    | 114  |
| Phegopteris . . . . .                     | 260  | 12   | 46   | <i>Psamma</i> . . . . .        | 234  | 11   | 51   |
| Phleum . . . . .                          | 232  | 11   | 30   | Pteris . . . . .               | 254  | 12   | 144  |
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| <i>Physospermum</i> . . . . .             | 86   | 4    | 175  | Pubilaria . . . . .            | 194  | 9    | 220  |
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| Phyteuma . . . . .                        | 120  | 6    | 5    | Pulmonaria . . . . .           | 136  | 7    | 90   |
| Picris . . . . .                          | 114  | 5    | 135  | Purslane . . . . .             | 164  | 8    | 37   |
| Pile-wort . . . . .                       | 4    | 1    | 49   | Pyrola . . . . .               | 126  | 6    | 46   |
| Pill-wort . . . . .                       | 262  | 12   | 2    | Pyrus . . . . .                | 72   | 3    | 241  |
| Pilularia . . . . .                       | 262  | 12   | 2    |                                |      |      |      |
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| Pimpinella . . . . .                      | 88   | 4    | 115  | Quercus . . . . .              | 176  | 8    | 144  |
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| Pine . . . . .                            | 252  | 8    | 21   |                                |      |      |      |
| Pinguicula . . . . .                      | 150  | 7    | 122  | Radicula . . . . .             | 12   | 1    | 76   |
| Pink . . . . .                            | 28   | 2    | 51   | Radiola . . . . .              | 42   | 2    | 179  |
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| Plantaginacææ . . . . .                   | 160  | 7    | 166  | Ragged Robin . . . . .         | 30   | 2    | 71   |
| Plantago . . . . .                        | 160  | 7    | 167  | Rag-wort . . . . .             | 110  | 5    | 85   |
| Plantain . . . . .                        | 160  | 7    | 168  | Rampion . . . . .              | 120  | 6    | 6    |
| Plowman's Spikenard . . . . .             | 104  | 5    | 99   | Ransoms . . . . .              | 194  | 9    | 219  |
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| Poa . . . . .                             | 240  | 11   | 111  | Raphanus . . . . .             | 22   | 1    | 120  |
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| Polygala . . . . .                        | 26   | 2    | 34   | Reseda . . . . .               | 22   | 2    | 1    |
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| Rocket . . . . .               | 20   | 1    | 171  | Scandix . . . . .             | 90     | 4    | 171  |
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| Ruscus . . . . .               | 192  | 9    | 183  | Sea Buckthorn . . . . .       | 170    | 8    | 83   |
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| Rye-grass . . . . .            | 248  | 11   | 186  | Sea-holly . . . . .           | 84     | 4    | 95   |
| Rynchospora . . . . .          | 214  | 10   | 145  | Sea-kale . . . . .            | 22     | 1    | 119  |
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| Salt-wort . . . . .            | 164  | 8    | 4    | Selinum . . . . .             | 92     |      |      |
| Salvia . . . . .               | 154  | 7    | 41   | Sempervivum . . . . .         | 78     | 4    | 60   |
| Sambucus . . . . .             | 96   | 4    | 199  | <i>Senebiera</i> . . . . .    | 21     | 2    | 20   |
| Samolus . . . . .              | 130  | 7    | 155  | Senecio . . . . .             | 110    | 5    | 80   |
| Samphire . . . . .             | 90   | 4    | 142  | Serratula . . . . .           | 114    | 5    | 28   |
| Sand-wort . . . . .            | 34   | 2    | 104  | Service-tree . . . . .        | 72, 74 | 3    | 242  |
| <i>Sanguisorba</i> . . . . .   | 66   | 3    | 131  | Seseli . . . . .              | 90     | 4    | 137  |
| Sanicle . . . . .              | 84   | 4    | 93   | Sesleria . . . . .            | 238    | 11   | 35   |
| Sanicula . . . . .             | 84   | 4    | 92   | Setaria . . . . .             | 228    | 11   | 13   |
| Santalaceæ . . . . .           | 170  | 8    | 87   | Sheep's-bit . . . . .         | 120    | 6    | 4    |
| Saponaria . . . . .            | 30   | 2    | 52   | Shepherd's-needle . . . . .   | 90     | 4    | 171  |
| <i>Sarothamnus</i> . . . . .   | 50   | 8    | 10   | Shepherd's-purse . . . . .    | 20     | 1    | 204  |
| Satureja . . . . .             | 154  | 7    | 30   | Sherardia . . . . .           | 98     | 4    | 231  |
| Saussurea . . . . .            | 112  | 5    | 26   | Shield-fern . . . . .         | 256    | 12   | 90   |
| Savastana . . . . .            | 231  | 11   | 16   | Shore-weed . . . . .          | 160    | 7    | 174  |
| Saw-wort . . . . .             | 114  | 5    | 29   | <i>Sibbaldia</i> . . . . .    | 64     | 3    | 142  |
| Saxifraga . . . . .            | 74   | 4    | 64   | Sibthorpia . . . . .          | 142    | 6    | 147  |
|                                |      |      |      | Sieginglia . . . . .          | 238    | 11   | 86   |

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| Silaus . . . . .                           | 92   | *1   | *139 | Stellaria . . . . .                            | 32   | *2   | *91  |
| Silene . . . . .                           | 30   | 2    | 55   | Stitch-wort . . . . .                          | 32   | 2    | 95   |
| Silver-weed . . . . .                      | 64   | 3    | 150  | St. John's-wort . . . . .                      | 40   | 2    | 143  |
| Silybum . . . . .                          | 112  | 5    | 4    | Stock . . . . .                                | 12   | 1    | 152  |
| Simethis . . . . .                         | 194  | 9    | 220  | Stone-crop . . . . .                           | 78   | 4    | 54   |
| <i>Sinapis</i> . . . . .                   | 18   | 1    | 124  | Stone-parsley . . . . .                        | 88   | 4    | 105  |
| Sison . . . . .                            | 88   | 4    | 101  | Stork's-bill . . . . .                         | 44   | 2    | 207  |
| Sisymbrium . . . . .                       | 16   | 1    | 142  | Strap-wort . . . . .                           | 160  | 7    | 177  |
| Sisyrinchium . . . . .                     | 190  | 9    | 138  | Stratiotes . . . . .                           | 182  | 9    | 79   |
| Sium . . . . .                             | 88   | 5    | 117  | Strawberry . . . . .                           | 62   | 3    | 155  |
| Skull-cap . . . . .                        | 154  | 7    | 48   | Suæda . . . . .                                | 164  | 8    | 1    |
| Sloe . . . . .                             | 60   | 3    | 115  | Subularia . . . . .                            | 18   | 1    | 200  |
| Small-reed . . . . .                       | 234  | 11   | 52   | Succory . . . . .                              | 114  | 5    | 123  |
| Smyrnium . . . . .                         | 86   | 4    | 176  | <i>Succisa</i> , see <i>Scabiosa</i> . . . . . | 100  |      |      |
| Snake's-head . . . . .                     | 196  | 9    | 188  | Sulphur-weed . . . . .                         | 92   | 4    | 148  |
| Snake-weed . . . . .                       | 166  | 8    | 58   | Sulphur-wort . . . . .                         | 90   | 4    | 149  |
| Snapdragon . . . . .                       | 142  | 6    | 131  | Sundew . . . . .                               | 80   | 2    | 31   |
| Sneeze-wort . . . . .                      | 106  | 5    | 60   | Sweet-briar . . . . .                          | 68   | 3    | 210  |
| Snow-drop . . . . .                        | 192  | 9    | 167  | Sweet-flag . . . . .                           | 202  | 9    | 12   |
| Snow-flake . . . . .                       | 192  | 9    | 166  | Sweet Gale . . . . .                           | 174  | 8    | 189  |
| Soap-wort . . . . .                        | 30   | 2    | 53   | Sycamore . . . . .                             | 48   | 2    | 231  |
| Soft-grass . . . . .                       | 236  | 11   | 171  | Symphytum . . . . .                            | 134  | 7    | 114  |
| Solanaceæ . . . . .                        | 138  | 6    | 94   |  |      |      |      |
| Solanum . . . . .                          | 138  | 6    | 94   | Tamaricaceæ . . . . .                          | 38   | 2    | 138  |
| Solidago . . . . .                         | 102  | 5    | 112  | Tamarisk . . . . .                             | 38   | 2    | 139  |
| Solomon's-seal . . . . .                   | 192  | 9    | 177  | Tamarix . . . . .                              | 38   | 2    | 138  |
| Sonchus . . . . .                          | 120  | 5    | 152  | Tamus . . . . .                                | 192  | 9    | 170  |
| <i>Sorbus</i> , see <i>Pyrus</i> . . . . . | 72   |      |      | Tanacetum . . . . .                            | 108  | 5    | 44   |
| Sorrel . . . . .                           | 168  | 8    | 65   | Tansy . . . . .                                | 108  | 5    | 45   |
| Sow-bread . . . . .                        | 128  | 7    | 140  | Taraxacum . . . . .                            | 118  | 5    | 142  |
| Sow-thistle . . . . .                      | 120  | 5    | 153  | Tare . . . . .                                 | 56   | 3    | 84   |
| Sparganium . . . . .                       | 202  | 9    | 4    | Tassel Pond-weed . . . . .                     | 210  | 9    | 58   |
| Spartina . . . . .                         | 228  | 11   | 4    | Taxus . . . . .                                | 252  | 8    | 276  |
| Spear-wort . . . . .                       | 4    | 1    | 36   | Teasel . . . . .                               | 100  | 4    | 246  |
| <i>Specularia</i> . . . . .                | 122  | 6    | 17   | Teesdalea . . . . .                            | 22   | 1    | 208  |
| Speedwell . . . . .                        | 142  | 6    | 118  | Teucrium . . . . .                             | 158  | 7    | 81   |
| Spergula . . . . .                         | 36   | 2    | 126  | Thale-cress . . . . .                          | 18   | 1    | 142  |
| Spergularia . . . . .                      | 36   | 2    | 128  | Thalictrum . . . . .                           | 2    | 1    | 4    |
| Spider Orchis . . . . .                    | 186  | 9    | 112  | Thesium . . . . .                              | 170  | 8    | 87   |
| Spignel . . . . .                          | 92   | 4    | 141  | Thistle . . . . .                              | 110  | 5    | 3    |
| Spindle-tree . . . . .                     | 46   | 1    | 221  | Thlaspi . . . . .                              | 20   | 1    | 202  |
| Spiræa . . . . .                           | 60   | 3    | 125  | Thrift . . . . .                               | 126  | 7    | 158  |
| Spiranthes . . . . .                       | 184  | 0    | 115  | Thyme . . . . .                                | 154  | 7    | 26   |
| Spleen-wort . . . . .                      | 256  | 12   | 17   | Thymelæaceæ . . . . .                          | 170  | 8    | 84   |
| Spurge . . . . .                           | 172  | 8    | 98   | Thymus . . . . .                               | 154  | 7    | 25   |
| Spurge Laurel . . . . .                    | 170  | 8    | 87   | Tilia . . . . .                                | 42   | 2    | 171  |
| Spurrey . . . . .                          | 34   | 2    | 128  | Tiliaceæ . . . . .                             | 42   | 2    | 171  |
| Squill . . . . .                           | 194  | 9    | 199  | Tillæa . . . . .                               | 75   | 4    | 47   |
| Stachys . . . . .                          | 156  | 7    | 53   | Toad-flax . . . . .                            | 140  | 6    | 134  |
| Star-fruit . . . . .                       | 204  | 9    | 74   | Tofieldia . . . . .                            | 198  | 9    | 223  |
| Star-of-Bethlehem . . . . .                | 196  | 9    | 196  | Tooth-wort . . . . .                           | 148  | 6    | 189  |
| Star-thistle . . . . .                     | 114  | 5    | 37   | Tordylium . . . . .                            | 94   | 4    | 155  |
| Statice . . . . .                          | 126  | 7    | 156  | <i>Torilis</i> . . . . .                       | 94   | 4    | 162  |
| <i>Steironema</i> . . . . .                | 128  | 7    | 147  |  |      |      |      |

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| Tragopogon . . . . .        | 120  | 5    | 138  | <i>Villarsia</i> . . . . . | 132  | 6    | 80   |
| Traveller's-joy . . . . .   | 2    | 1    | 3    | Vinca . . . . .            | 130  | 6    | 62   |
| Treacle-mustard . . . . .   | 18   | 1    | 149  | Viola . . . . .            | 24   | 2    | 12   |
| Tree-mallow . . . . .       | 42   | 2    | 165  | Violaceæ . . . . .         | 24   | 2    | 12   |
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| Trichomanes . . . . .       | 260  | 12   | 32   | Viper's Bugloss . . . . .  | 138  | 7    | 189  |
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| Trifolium . . . . .         | 52   | 3    | 35   |                            |      |      |      |
| Triglochin . . . . .        | 206  | 9    | 65   | Wahlenbergia . . . . .     | 120  | 6    | 18   |
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| Trinia . . . . .            | 86   | 4    | 107  | Wall-flower . . . . .      | 12   | 1    | 154  |
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| <i>Triticum</i> . . . . .   | 250  | 11   | 176  | Wart-cress . . . . .       | 20   | 1    | 222  |
| Trollius . . . . .          | 6    | 1    | 53   | Water-cress . . . . .      | 12   | 1    | 178  |
| Tulip . . . . .             | 196  | 9    | 191  | Water-dropwort . . . . .   | 90   | 4    | 125  |
| Tulipa . . . . .            | 196  | 9    | 189  | Water-lily . . . . .       | 8    | 1    | 77   |
| Tunica . . . . .            | 28   | 2    | 51   | Water-milfoil . . . . .    | 80   | 1    | 32   |
| Turnip . . . . .            | 18   | 1    | 135  | Water-parsnip . . . . .    | 88   | 4    | 118  |
| Tussilago . . . . .         | 108  | 5    | 115  | Water-plantain . . . . .   | 204  | 9    | 71   |
| Tutsan . . . . .            | 40   | 2    | 144  | Water-purslane . . . . .   | 82   | 4    | 5    |
| Tway-blade . . . . .        | 184  | 9    | 121  | Water Soldier . . . . .    | 182  | 9    | 80   |
| Twig-rush . . . . .         | 214  | 10   | 44   | Water Star-wort . . . . .  | 80   | 8    | 119  |
| Typha . . . . .             | 202  | 9    | 2    | Water-thyme . . . . .      | 182  | 9    | 82   |
| Typhaceæ . . . . .          | 202  | 9    | 1    | Water-violet . . . . .     | 128  | 7    | 130  |
|                             |      |      |      | Water-wort . . . . .       | 38   | 2    | 142  |
| Ulex . . . . .              | 48   | 3    | 3    | Wayfaring-tree . . . . .   | 96   | 4    | 204  |
| Ulmaceæ . . . . .           | 174  | 8    | 137  | Weasel-snout . . . . .     | 142  | 7    | 69   |
| Ulmus . . . . .             | 174  | 8    | 137  | Weingærtneria . . . . .    | 234  | 11   | 64   |
| Umbelliferæ . . . . .       | 84   | 4    | 88   | Welsh Poppy . . . . .      | 10   | 1    | 92   |
| Unifolium . . . . .         | 194  | 9    | 175  | Wheat-grass . . . . .      | 250  | 1    | 176  |
| Urtica . . . . .            | 174  | 8    | 126  | Whin . . . . .             | 48   | 3    | 5    |
| Urticaceæ . . . . .         | 174  | 8    | 125  | White Beam-tree . . . . .  | 74   | 3    | 244  |
| Utricularia . . . . .       | 148  | 7    | 126  | White-rot . . . . .        | 84   | 2    | 89   |
|                             |      |      |      | Whitlow-grass . . . . .    | 16   | 1    | 190  |
| Vacciniaceæ . . . . .       | 122  |      |      | Whorl-grass . . . . .      | 238  | 11   | 95   |
| Vaccinium . . . . .         | 122  | 6    | 20   | Whortleberry . . . . .     | 122  | 6    | 23   |
| Valerian . . . . .          | 100  | 4    | 237  | Wild Hyacinth . . . . .    | 196  | 9    | 200  |
| Valeriana . . . . .         | 100  | 4    | 235  | Willow . . . . .           | 176  | 8    | 200  |
| Valerianaceæ . . . . .      | 100  | 4    | 233  | Willow-herb . . . . .      | 82   | 4    | 11   |
| Valerianella . . . . .      | 100  | 4    | 239  | Winter-aconite . . . . .   | 6    | 1    | 56   |
| Venus' Comb . . . . .       | 90   | 4    | 172  | Winter-cress . . . . .     | 14   | 1    | 171  |
| Verbascum . . . . .         | 140  | 6    | 199  | Winter-green . . . . .     | 126  | 6    | 46   |
| Verbena . . . . .           | 150  | 6    | 102  | Woad . . . . .             | 22   | 1    | 223  |
| Verbenaceæ . . . . .        | 150  | 6    | 201  | Wolffia . . . . .          | 204  | 9    | 24   |
| Vernal-grass . . . . .      | 230  | 1    | 18   | Wood-bine . . . . .        | 96   | 4    | 207  |
| Veronica . . . . .          | 142  | 6    | 148  | Wood-ruff . . . . .        | 98   | 4    | 228  |
| Vervain . . . . .           | 150  | 6    | 202  | Wood-rush . . . . .        | 200  | 10   | 5    |
| Vetch . . . . .             | 56   | 3    | 20   | Woodsia . . . . .          | 260  | 12   | 98   |
| Viburnum . . . . .          | 96   | 4    | 202  | Wood-Sorrel . . . . .      | 46   | 2    | 211  |
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THE END



